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# MEDICATED BATHS

IN THE TREATMENT OF

## SKIN DISEASES.

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## P R E F A C E .

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THESE imperfect notes have been written with a desire not only to direct more general professional attention to the subject of which they treat, but also in the hope of stimulating interest in order that the Bath in the treatment of various skin disorders may be more frequently adopted and its value more fully demonstrated. As the title implies, I have confined my remarks almost exclusively to artificial baths, and no attempt has been made to make the notes a book of reference for *natural* baths. A few health stations are mentioned incidentally and generally by way of illustration only. The object has been to give some guide to the selection and rational use of such artificial baths as can readily be prepared either in hospital or in private practice.

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22 Newhall Street Birmingham,  
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# MEDICATED BATHS.

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## PART 1.—GENERAL CONSIDERATIONS.

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It is not in the present day, if we have any desire to be consistent, that we can afford to dispense with or neglect the bath in the treatment of skin disorders. Although it may be true that ancient Rome overdid the matter with its eight hundred and fifty-six public baths, the severest critic will not say that medical men of to-day are inclined to similarly overdo or over-use the bath as a method of treatment in skin diseases. On the other hand, there may be some basis for the suggestion that an insufficient use is made of this agent, especially having regard to the change in the professional mental attitude which has gradually but definitely come upon us during the last few years. The direction of medical thought and endeavour has more and more shaped towards the parasitic theory of etiology, and in this general advance the dermatologist has not been found in the rear. One after another of common skin diseases have been re-

garded with suspicion. The discovery of the pathogenic power of pus-forming cocci was immediately reflected upon the views of the etiology of the large group of pustular diseases—diseases either primarily pustular or pustular as the result of mixed infection. The great change which has of late years come over our conceptions of the origin of many dermatoses is still in several instances uncrystallised; but nevertheless it would appear that these new conceptions are steadily, if slowly, assuming definite shape, attracting more and more attention, and showing themselves capable of more satisfactorily elucidating the problems of dermatology than the views formerly current. In this relation we need only mention epidemic pemphigus, seborrhœa, eczema, and psoriasis as diseases which are being critically examined under the new lens; and with regard to treatment, our constant search after unirritating remedies with parasiticial properties lends weight to the same contention.

A glance through the dermatological textbooks\* shows that the bath treatment of skin diseases has been relegated to a somewhat inferior position—a position which is certainly not deserved by the usefulness and convenience of this method

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\* Tilbury Fox stands out among English dermatologists in having given special attention to balneology, and he appears to have formed a high estimate of the value of medicated baths in many skin disorders.

of treatment in not a small number of frequently occurring disorders.

I do not intend for a moment to suggest that the bath should take the place of other and more usual methods of treatment, the value of which constant experience has demonstrated, but I have no doubt whatever that advantage would be gained by its more general adoption in routine practice. Were it not for a certain tradition anent water and eczema, which has been unconsciously extended till in the medical mind it has frequently come to include baths and skin diseases, the multiple and manifest uses of the medicated bath in the hands of the specialist would be at the present time more generally recognised, and as a method of treatment, for which it is difficult to find a substitute, the bath would take a position to which in virtue of its value it is justly entitled.

The bath lends itself as a ready and convenient method of using many drugs in various skin diseases, and is a method of treatment the convenience of which becomes more striking the greater the surface of skin affected with disease. The adaptation of a wide range of substances to artificially medicate baths may readily be devised by the balneotherapist, but the undue multiplication of baths is not desirable unless the reasons for so doing are manifest. As many general disorders which do not

demand a remedy with specific powers may be benefitted by various drugs, so in the balneotherapy of skin diseases it is found that the same curative or palliative result may be arrived at by the use of diverse baths. Those mentioned in the following pages are mostly those which are in general and common use, together with some more rarely used, but to which I have thought it better to refer, because of their ascertained special usefulness in some diseases. Experience has shown that all the effects which we are justified in expecting from the use of this method of treatment may be obtained from the baths mentioned.

With regard to general balneotherapeutics as practised at the various mineral water establishments and health resorts it is no doubt true that, to a large extent, the beneficial result of such treatment, even in skin diseases, is due to more than one cause. The part played in the cure by the bathing and drinking is supported and supplemented, and frequently no doubt far outweighed by the exhilarating influences of the environment, the rest and change, with their attendant freedom from accustomed worries of life, climatic conditions, diet, the minor hygienic factors of music, increased exercise in the open air, the gaiety of social intercourse, and the tonic influence of hope, all contribute to the result, to say nothing of the

depurative action of the water *per se* as distinguished from its dissolved saline and gaseous constituents. In the bath department of a skin hospital, however, these accessories are not present and we have, therefore, to credit the bath itself with the benefit which, without doubt, is found in the treatment of a large number of skin diseases by means of properly selected artificially medicated baths.

The dogma that there is absorption by the healthy skin into the blood, or lymph, of the mineral or other constituents of natural or artificial baths has long since been discredited. What is known with certainty upon the subject may be summed up in a very few sentences. The superficial layer of the epidermis without doubt imbibes a small amount of the water of the bath, becoming thereby softened; together with this imbibition of water by the most superficial layers of the epidermis there is also a consequent imbibition of the salts dissolved in the bath water. No absorption, in its proper sense, takes place, nor are the deeper layers of the epidermis even penetrated. With the drying of the skin, after the bath, there remain traces of the mineral constituents of the bath upon the surface, the therapeutic potency of which is probably slight.\*

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\* Of course absorption may easily take place through excoriations, or from the anal, or vulval mucous membrane.

On the other hand, it is quite clearly established that the skin possesses the power of absorbing from the bath, dissolved *gaseous and volatile substances*, such as iodine and sulphuretted hydrogen.

There is a ready absorption, too, of mineral substances if, by means of friction, the applied solution or medicament is forced into the ducts of the skin glands; particularly is this true if the medicament is dissolved in a volatile solvent, such as alcohol.

What has been said above refers to the possibility for absorption by the healthy skin. The matter is entirely different if we have to deal with an integument more or less denuded of epithelium, as in ulcers, burns, wounds, and pustular affections. In late stages of pustular eczema the derma may be nearly raw, so denuded of even the deep cells of the epidermis is the part affected. In eczema and pemphigus the superficial horny cells are wanting, and although the deeper cells of the horny layer may be present, these are swollen from imbibition and the hyperæmia attending the pathological process. The result is that the obstacle to absorption formed by the healthy epidermis is very largely diminished.

The practical effect of this is that in a very large number of skin disorders the absorptive



power of the skin is materially increased. In some cases, such as *eczema rubrum*, where absorption or inflow is not opposed by profuse weeping or outflow, this absorptive power is very marked, as the rapid onset of atropism by the limited application of belladonna ointment will demonstrate. In these cases the absorption by the diseased skin of the medicament contained in a bath may have a specific influence in moderating or aggravating the disease under treatment. Exact observations are needed as to the amount of absorption which takes place from the bath in cases of general infiltrated *eczema* or *dermatitis*.

Our knowledge of the exact therapeutic action of hot, warm, or cold temperatures is still quite elementary, as is also our information on the action of particular saline constituents of the baths we constantly use. To assume the contrary and to base our views on other than a clinical foundation is, therefore, at present premature and pretentious ; and it is to be regretted that some of the local works on various spas attempt, on insufficient scientific data, the physiological explanation of the action of their particular treatment. With regard to the action of the contained salts or substances, it may be said that in the absence of any sufficiently inclusive theory capable of explaining satisfactorily the observed results of medicated baths in dermato-

therapeutics we must recognise the predominating value of empirical information based upon clinical experience, as we must also, I think, still continue to recognise the practical value of such general terms as "soothing" and "stimulating" when applied to designate the leading clinical characteristics of the bath.

The full consideration of the action of baths of various temperatures belongs to the domain of Hydro-therapy and General Balneo-therapeutics, and works on these subjects must be consulted with reference thereto. A few brief notes of the effect of plain baths of varying temperature may, however, be usefully added here, although it is much to be doubted if the information we possess on this subject is of more than very general value.

The range of temperature between  $93.2^{\circ}$  Fah. and  $95^{\circ}$  Fah. constitutes what is called the point of thermal indifference, *i.e.*, at this temperature the loss of heat of the immersed body approximates the normal loss of heat. It will be found as a matter of clinical experience that thermally indifferent baths (*viz.*, baths between these points of temperature) are most suitable for a large number of cases of acute and sub-acute vesicular eczema, especially where there is a marked tendency for the eruption to spread or for fresh patches of vesicles to appear.

The hot bath exalts the functional activity of the skin by stimulating it, dilates its vascular network, increases the blood supply, and thus leads to more active movement of blood and lymph. The action of the warm bath prolonged for some time is similar in kind to that of the hot bath, both in its effect upon the skin and in its general effect upon the temperature of the body, pulse and respiration rates, tissue metabolism, excretion of carbonic acid and in its effect upon the nervous system. The cold bath acts as an excitant to the cutaneous nerves. Short application of both heat and cold exalt the sensitiveness of the skin to stimuli; touch, pressure, and temperature sense are all affected. It is probable that prolonged warm baths diminish the cutaneous excitability, and in this way is explained their beneficial influence in pruritus.

It seems certain that a prominent factor in the balneo-therapeusis of dermatoses is the power possessed by the bath of temporarily modifying the skin circulation—in increasing or diminishing its blood supply and of influencing the tonus of its vasomotor apparatus.

The bath, and especially is this true of the warm and of the hot bath, exercises a sedative influence on the nervous apparatus of the vessels of the cutis. Thus it not only modifies the circulation but it tends to equalise the vessel tonus, and in this

way relieves both arterial and venous idiospasm with their attendant subjective and objective phenomena.

Increased activity of the cutaneous circulation is attended with increased activity of the lymph movements, and with resolution and absorption of exudations. It is partly in this respect that the temperature of the bath exercises its potency. Moreover, the interstitial accumulation of inflammatory products and exudations constitutes an irritant, which effectually prevents the restoration of that physiological calm necessary to the establishment of "cure." The increased activity of peripheral circulation and the consequent stimulation of the dermal lymphatic circulation, largely influence lymphatic and venous absorption of inflammatory effusions, and one of the chief practical uses of the bath is to promote the absorption of inflammatory products.

The cleansing action of the bath, is, in my opinion, an exceedingly important element in its therapeutic effect. The removal of dirt, decomposed sweat, incrustations, old epidermis, and sebaceous accumulations, all of which we may surmise to favour the culture of various micro-organisms must be beneficial. The healthy sweat is acid; decomposed sweat, such as is found on the feet, is alkaline.

Crocker's words are graphically true when he says: "No part of the body is so exposed to parasitic invasion as the skin, even in its normal condition, and any disturbance of the surface, especially of an inflammatory character, opens wide the door for their entrance . . . . The keynote of modern dermo - therapeutics is ANTI-SEPTICISM." It might have been added that the bath was the best and first step towards securing freedom from sepsis.

The primary action of the cold bath is to cause contraction of the peripheral vessels, while its after-action is like that of the warm bath, vaso-dilatation.

Apart from its use in the hygiene of the skin, the cold bath finds its chief use in dermatology in those conditions indicating tonic local treatment and especially, or in practice almost entirely, in convalescence from various inflammatory dermatoses. The well-known tonic influence of the cold immersion, or douche, is due largely to the stimulating influence upon the nerves and the consequent action in calling into play the involuntary muscular fibres of the skin. From the conditions of protective clothing in civilised life these unstriated cutaneous muscular fibres have largely become functionless from disuse, and the cold bath provides them with a course of gymnastic exercises, so

to speak, which re-establishes their function. Moreover, even the cutaneous vascular muscular fibre is "untuned" by our warm clothing, and this to is beneficially affected by the cold bath. The immediate toning effect of this bath is thus the opposite of the parietic effect of the warm bath; cold, in fact, is the commonest cause of increased blood tension in the skin vessels although the effect is evanescent and is, unless the cold is intense, followed by dilatation of the vessel and fall of pressure.

Since water is a far better conductor of heat than is air at rest, a bath of 60° Fah. produces a colder sensation than does mere exposure of the uncovered body to still air at the same temperature.

Baths, especially those which stimulate the skin, either from their temperature or mineralisation, augment the flow of blood in the cutis and increase in this way its respiratory action. During the bath the transpiration of water by the skin is in abeyance, but this is increased after the bath, and especially after warm and stimulating baths. This may be quite unimportant with regard to the slight increase of carbonic anhydride excreted, but it is not improbable that the general excitation of the sweat and sebaceous glands to increased and perhaps to more regular activity by the warm bath may have in many forms of skin disease, especially



in chronic diseases, a beneficial or resolvent action. If we regard the skin as a vast gland instead of a countless number of separate glands, it is conceivable that the stimulation to increased or more vigorous functional activity of the healthy parts may ameliorate or modify pathological processes in the diseased area.

The restoration by means of the bath of the lumen of sweat and sebaceous pores blocked by eczematous or other exudation must in itself be a powerful factor in determining a more healthy tendency and restoration of the physiological processes.

The intercellular nerve terminations in the epidermis should be considered in connection with the fact of imbibition of water by and consequent softening of the general horny layer. The more pliable and yielding character of epidermal cells thus softened relieves from their accustomed degree of pressure, if one may be allowed so to speak, the delicate and sensitive sublying nerve filaments, and this may be held to be a factor in explaining the soothing and anti-pruritic influence of the bath.\* It is a matter of constant clinical observation, and it is quite certain that warm baths lessen the

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\* Heymann and Krebs believed that the sedative action of prolonged warm baths was due to the swelling of Krause's terminals and Meissner's touch corpuscles caused by the imbibition of water.

irritability of the sensory nerves and thus calm the reflex excitability of the centres.

The trophic effect of stimulating the skin with water of different temperatures may be surmised by consideration of its wonderful system of nerves capable of appreciating and reacting to even slight differences of temperature and sensory impressions. The delicacy of this nerve supply renders it probable that the influence of the bath upon the trophic centres is a material one. The well-known influence of the cold bath in calling into action and restoring the tone of the cutaneous involuntary muscular fibres has been referred to.

Little is definitely known with regard to the reflex effect of mineralized baths on the nervous system, and the consequent trophic influence exerted thereby. A very guarded authority (Dr. Otto Leichtenstern) says :—"The cold and warm bath also act no less powerfully on different functions of the central nervous system. Our daily increasing knowledge of the influence of the peripheral nervous system on the most complicated processes of the organism (I mean the phenomena of magnet and metal therapeutics of transfert, the wonderful observations on hypnotised subjects) allows us to conjecture that the stimulation of the skin, produced by various simple or salt and gas-containing baths, even when it is far below the measurement of

ordinary sensation, may influence the central nervous system, and the organic functions under its rule."

Even in the healthy skin the effect of mineralised (and especially of stimulating) baths is to cause a much greater hyperæmia of the derma than do plain water baths of similar temperature, and this is true both of the immediate action of the warm bath and of the after-action of the cold bath.

In considering the general influence of the bath it must be remembered that the blood pressure is considerably influenced by the temperature of the water, the intracranial vessels dilate during a cold bath, while the immediate effect upon the skin vessels is contraction. On the other hand, during a hot bath the internal (intracranial, for example) vessels contract, while the skin vessels dilate.

Prolonged immersion in the warm bath diminishes the sensitiveness and vaso-motor excitability of the skin; and for this reason relieves the subjective sensations such as pruritus, which attend many skin diseases. The metabolic processes are strongly stimulated by vapour baths, as they are also by the douche.

Ernest Heuss has shown that the influence of the vapour bath is (like that of pilocarpine) to

diminish the acidity of the sweat, and even to cause alkalinity.

Other things (*e.g.*, degree of unctuousness of skin) being equal, it is reasonable to suppose that the amount of imbibition of water by the skin (from soaking of epidermis) increases up to a point with the duration of the bath. The gradual evaporation of this imbibed water, together with the increased transpiration caused by the bath, is attended with a cooling and soothing after-effect upon the skin while this increased perspiration after the bath keeps up for a time that pliancy of the epidermis which I assume to have an appreciable influence on the epidermal nerve termini.

The dryness of the skin in chronic infiltrated eczema is probably due to the stenosis of the slit-like openings of the sweat-ducts as they pass through the stratum lucidum. It is possible that the imbibition in the bath acts by softening the cells and inflammatory exudation, thus permitting the re-establishment of the function of the ducts, the glands of which are simultaneously stimulated.

In dermatological practice the alleged constipating influence of warm baths is not likely to be met with, although certain balneotherapists speak of such baths as likely to aggravate the constipation caused by the prolonged internal use of warm water at thermal spas.

## PART II.

## BATHS.

If it be possible to select a water supply for an installation of medicated baths, attention and preference should be given to *soft* water, for as is well known the calcarious and magnesian salts contained in hard water have an injurious effect upon the epidermis, an effect which in many delicate - skinned persons become of serious importance. Notwithstanding that this may be largely modified by medicaments added to the bath, notably by mucilaginous substances such as starch, bran, size, or marshmallow, it still remains a fact that soft water is far better for bath purposes and should be used when available ; more especially is this the case when we have an acutely inflamed and irritable eczema to deal with.

The following table gives the temperatures generally used in the various baths :—

Bath.	Water.	Vapour.	Air.
Cold.	40° to 65° F.		
Cool.	65° to 75° F.		
Tepid.	85° to 95° F.		
Warm.	95° to 100° F.	100° to 115° F.	110° to 120° F.
Hot.	100° to 110° F.	115° to 140° F.	120° to 135° F. or more.

The usual duration of the medicated bath used in dermatotherapy is from fifteen to twenty minutes, generally the latter. In bathing establishments it is convenient to have sand time-glasses, which may be inverted by the patient as he enters his bath. In some diseases, such as inveterate psoriasis, it is well to prolong the duration of the bath to several hours, and to prescribe it to be taken every day. Reference will be found below to the continuous bath, in which the patient remains for many weeks or months, a proceeding of very great value in severe cases of pityriasis rubra, pemphigus exfoliatus, dermatitis herpetiformis, phagedæna, and other conditions. These baths are constructed so that no interference takes place with free movement, and to admit of sleeping at night. Hebra has laid down the dictum that if baths are to prove useful in skin diseases they must be long-continued, viz., not under an hour.

It is to be presumed that the cause of the success of the treatment of chronic skin affections at Leuk is to be sought much more in the prolonged immersion, amounting to several hours, than in the mineralisation of its thermal earthy water. Most physicians will agree with Hebra that it is in the method employed more than in the composition of the bath that the explanation of the beneficial influence of the Leuk treatment in such affections



as psoriasis, pruritus, and chronic ulcers is to be sought. The temperate bath at Mont Dore lasts from three-quarters of an hour to an hour, while the hot bath is of very short duration.

The duration of the vapour bath should be ten or twelve minutes, rarely extended to fifteen or twenty minutes.

Mr. Balmanno Squire has treated Psoriasis by a daily bath at 90° Fah., lasting five hours. While the result was fairly successful, this sacrifice of time (the baths were continued for six weeks) is much against the general use of such prolonged baths.

Care should be taken by the addition of hot water during the continuance of the bath to maintain the constancy of its temperature. If a bath at 92° Fah. is prescribed for an old and emaciated patient with eczema or exfoliative dermatitis, he will, as the water cools, feel chilly unless this precaution is taken. The bath attendant, therefore, should be instructed to maintain the temperature, especially where the tepid bath is prescribed.

In most skin affections the bath may advantageously be followed by an inunction or anointing with oil. It may be remarked that Galen prescribed anointing with oil after the bath, as did also Celsus, though not especially for skin disorders. This is the universal practice in the East,

and some years ago it appeared likely that the use would become common in western countries.

In out-patient practice it is the use to order a "bishebdomadal" bath to be taken. Among in-patients, or in private practice, a daily bath may with advantage be substituted in many itching and chronic diseases, while a bath on alternate days may be given to sub-acute cases, or where there is much hyperæmic activity in the condition.

Local baths are but little used in dermatological practice, although occasionally cases occur which may be well and more conveniently treated by means of a pediluvium or manuluvium than by general immersion. Inflammatory affections attacking the hands and feet, especially pustular diseases, may sometimes suggest the use of such partial baths. I have used with advantage a deep vessel to apply a boric acid bath to cases of pustular eczema of the leg with ulcers.

The douche or shower bath is but little used in dermato-therapeutics. Both the ascending and the descending douche have rose jets, and the water strikes the skin with some force, producing a marked stimulus to the nerves. It is used with some success in lichen and prurigo. Kaposi medicates the douche with various drugs.

**Emollient Bath (Balneum Emolliens)**—Hebra thought that the use of water in skin disease was

*indicated* in those diseases where its macerating and irritating effects are useful,—viz., in chronic dermatoses, such as psoriasis, lichen, ichthyosis, pityriasis rubra, old eczema and prurigo. Its favourable influence should be used in promoting the formation of a new epidermis in pemphigus and after destruction of the skin by burns and caustic substances. Its cleansing properties should be used where secretions, results of inflammation and the remains of dead tissue have to be removed as in suppurating wounds, ulcers and gangrene. He thought its use was *contra-indicated* in all sensitive irritable persons whose skin is liable to prolonged redness, rashes and itching; in all cutaneous affections attended with acute swelling and serous infiltration; and in all chronic dermatoses in which the horny layer has been removed.

A variety of substances are added to the plain water bath to render it demulcent or soothing to inflamed or irritated skin, and such a bath is termed emollient. In this way it is possible to obtain the cleansing action of a bath together with a soothing action upon the skin, due to the joint influence of the ingredients and the temperature. Many cases of eczema, for example, which are aggravated by the plain water bath are considerably improved by a tepid or warm emollient

bath. This form of bath, too, finds a wide range of usefulness in various disorders, but particularly where irritation or inflammatory hyperæmia exist, and indicate the selection of a soothing topical remedy. Some chronic scaly conditions are softened and relieved by the emollient bath, which in these cases may appropriately precede more stimulating immersions. Cases where irritable itching is present as well as those characterised by more acute vesicular and erythematous manifestations may be also selected for this bath. With regard to eczema, especially the vesicular form, the observations under "Eczema" should be noted; with properly-selected cases and carefully-prescribed bath, especially as to temperature, the result of bath treatment is often far more satisfactory and lasting than any other.

Among some of the more chronic skin disorders for which baths are employed, it may be pointed out that it appears a matter of indifference whether we select alkaline or sulphur baths. Such a disease as Keratosis pilaris seems to derive as much benefit from a soda as from a sulphuretted potash bath, and Hebra pointed out that sufferers from prurigo find relief from baths of most varied essential composition, provided that its duration be long enough. The same is true of some other skin disorders, although, of course,

it remains a law that the composition of the bath should be carefully adapted to the special conditions present in the case under treatment, especial regard being had to the degree of inflammation present.

The bath may be made emollient by the addition of various glutinous and amylaceous substances. The most commonly used, perhaps, is *starch*. About a pound is made into a thick mucilage in the ordinary way with boiling water and then added to the bath water.\*

*Bran* (two to four pounds) previously scalded, is also commonly used, and is especially useful if there is undue unctuousity or much adherent grease on the skin, particularly if the patient has been freely using ointments. If thought preferable the bran after being scalded with boiling water, may be strained through a coarse cloth and the fluid only added to the bath. *Gelatine*, two pounds, or *clarified size*, two to eight pounds, previously dissolved in boiling water (this constitutes the old *balneum gelatinii*) or *linsced*, a pound, boiled well into a

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\* The capacity of the full length bath should be carefully ascertained. It is usually given as thirty gallons, and the quantities of the ingredients given in the text are for that quantity. It will be found, however, that baths vary in capacity from thirty to seventy gallons, largely depending on the position of the overflow aperture. The baths in use at Birmingham Skin and Lock Hospital will contain forty-five gallons and then allow the immersion of a stout person without the overflow being reached.

decoction may be substituted. Brocq shows a preference for various herbal baths of which, perhaps, *marshmallow*, four pounds, may be mentioned as that in most common use in this country.

Bran (and also oatmeal) is of great service in effecting the removal of oil, grease or ointments from the surface of the skin. The scalded and cooled bran mash is rubbed by the bath attendant or by the patient into the skin before being added to the water to form the emollient bath; this is much more effective than soap, while being at the same time, generally speaking, more suitable. For example, after the patient has been oil-packed for some time it is really the only method of satisfactorily dealing with the grease-sodden skin.

In order to render the alkaline or sulphur bath more emollient we may add bran, starch, gelatine or size. Bran or starch should be associated with the soda bath; gelatine or size with the sulphur bath.

The size bath was a favourite with old writers in the treatment of ichthyosis and xeroderma.

The glycerine bath, as an emollient, is thought well of by Brocq, who uses about a pint to the bath.

**The Balneum Glycerini Co. (Skin Hosp. Pharm.)** contained two ounces of glycerine and one of gum tragacanth to the bath and was used for softening the skin in ichthyosis.

**Alkaline Bath.**—We are told that in 1858 the



balneum alkalinum was prescribed at the Hospital for Skin Diseases twenty times for one of any of the others. "It contains four ounces of carbonate of soda to thirty gallons of water, but is in a majority of cases used only half strength. Most patients suffering from inveterate scaly disease are directed to use this bath, twice a week being the ordinary recommendation."

Probably the same is true to-day, at any rate, I think the artificially mineralised bath most extensively used for skin diseases is the alkaline bath generally containing about four ounces of *bicarbonate of soda*. In very exceptional instances (*e.g.* non-eczematous cases) up to ten ounces may be used according to the irritability or chronicity of the case to be dealt with. For the bicarbonate we may substitute *washing soda* (2 to 4 oz.), or *borax* (3 or 6 oz.), or carbonate of potash (2 to 4 oz.). To any of these may be added bran, starch, or size, which increase the soothing and demulcent properties of the bath. In looking over the records of 300 baths consecutively ordered in the first six months of this year, I find 102 were "alkaline." Carbonate of ammonia makes a pleasant and useful alkaline bath, which I often resort to, and I am in the habit of frequently ordering an ounce of crystals of tartaric acid to be added to a strong soda bath for the purpose of increasing the quantity of free

carbonic acid present in the bath. This is on the supposition that there may be some element of truth in the claims of those therapists who urge that the natural spring baths containing carbonic acid have a more penetrative, stimulating, and perhaps a specific action upon the skin through its nerve terminations.

Curiously, the alkaline bath is classed by Brocq among the irritating or stimulating baths. This implies views which are not shared by English physicians, but perhaps the explanation may be that much higher strengths are favoured than are in use with us, the ordinary alkaline bath as prescribed in Paris containing from three to fourteen ounces of washing soda. Under these circumstances we need not express surprise when we are told that the mild strengths are generally sufficient to get good results.

Among the most obvious uses for which recourse is had to the alkaline bath are to cleanse the skin and remove crusts in eczema; to soften scales in psoriasis and ichthyosis and thus facilitate their removal; to soothe irritation and to exercise a sedative influence in itching eruptions like prurigo and urticaria; to relieve irritation and promote absorption of inflammatory exudation in eczema and lichens. The hot alkaline bath has special sedative properties, and is of much value in such

diseases as pruritus and lichen, where the object is to relieve itching and in which there is no fear of aggravating the pathological process by using the hot bath. The conjunction of the alkali with the hot temperature, while it might aggravate some cases of vesicular and erythematous eczema, benefits more chronic disorders, and effectually allays their itchiness for some hours. When used to facilitate the removal of crusts or scales the duration should be somewhat prolonged and the temperature may be about 100° Fah.

**Sulphur Bath (Balneum Sulphuretum).**—Sulphur Baths have a historic reputation in the treatment of many skin diseases as well as a widespread credit for the amelioration of various internal disorders. The natural sulphur baths are artificially imitated by dissolving sulphurated potash in water in the proportion of two to four ounces to 30 gallons. This is what is generally meant when the sulphur bath is prescribed, for the sulphur vapour bath is now used but by few practitioners.

The Balneum Sulphuris Compositum was a favourite formula with Mr. Startin. It is made by dissolving a pound of hyposulphite of soda in two gallons of water, adding four pounds of precipitated sulphur and two ounces of strong sulphuric acid. Of this a pint is to be added to each bath containing thirty gallons of water. It is an efficient

formula for scabies, and is useful in lichen planus.

A sulphur bath containing much free hydro-sulphuric acid may be made by adding three or four ounces of sulphide of calcium, and two or three ounces of hydrochloric acid to the bath; or to the sulphurated potash bath may be added from six drachms to an ounce of sulphuric acid. In either of these baths it is agreeable to spread a wet sheet over the bath to limit the inhalation by the bather of the sulphuretted hydrogen.

The addition of size renders the sulphurated potash bath more grateful to use. Unless special contra-indications exist, the patient should, while soaking in the bath, use frictions to the skin, while in very indolent eruptions, like keratosis pilaris, and acne, the bath brush may be briskly used by the attendant.

The sulphur bath (sulphurated potash) is stimulating in its action, and should not therefore be employed in the acute stages of inflammatory dermatoses. Apart from the treatment of scabies, this bath finds its greatest advantage in chronic forms of disease—*e.g.*, lichen, psoriasis, eczema. Where either of these disorders has passed into the chronic condition, or even if it be in the sub-acute stage, provided irritation is not a prominent feature, nor hyperæmia easily increased, this bath

will be found beneficial. It is believed to have some slight action as a systemic stimulant, and to affect the emunctory organs, apart altogether from its local action upon the skin. Whatever the theoretical explanation, experience compels us to admit that many skin disorders, eczema, psoriasis, and prurigo among the rest, are improved by sulphur baths. They also enjoy a wide reputation for acne and skin ulceration. I have found them an excellent adjunct to the treatment of scrofuloderma. Cocker suggests the use of the sulphur vapour bath as a provocative agent to test the reality of the cure of syphilis. Half an ounce of sulphur is sufficient to volatilise for the vapour bath and it is usual to simultaneously expose the body to a little steam.

**Tar Bath (*Balneum Carbonis*).**—Next to the alkaline, this is the most frequently used and valuable bath at the disposal of the dermatologist, and is of immense value in a large number of disorders, the treatment of which is greatly facilitated and agreeably shortened by its use. As usually ordered, it contains a wineglassful (about 2 or 3 ounces), of Wright's liquor carbonis detergens; not unfrequently, however, it is a wise precaution to begin with very weak baths containing half-an-ounce only of the solution. A

useful bath may be made by adding from half-an-ounce to two ounces of Anderson's liquor picis alkalinus to twenty or thirty gallons of water. A bath, very largely used by me, contains four ounces of borax and two ounces of liquor carbonis detergens. This is applicable to a very large number of chronic dermatoses, such as squamous and infiltrated eczema, psoriasis, lichen, prurigo, and the more indolent forms of seborrhœic eczema.

The precautions to be observed in selecting cases for treatment by the tar bath are the same as when tar is used in the form of lotion or ointment, but in properly selected cases there is scarcely any method of treatment by which we can give our patient so much benefit. The relief in widespread or general chronic lichen planus, for example, is most marked, and the benefit is not temporary only, but gradually curative. Not only are the subjective sensations abated but the bath appears to have a general tonic influence. Although not generally applicable to eczema in the vesicular form, there are some cases of relapsing patchy vesicular eczema in young adults which receive benefit from this bath. In the late stages of eczema, when hyperæmia and vesiculation have been subdued by emollient or alkaline baths or by other means, the tar bath forms an excellent method to complete the cure (*vide*



also Carbolic Bath, Creolin Bath and Lysol Bath).

**Carbolic Bath (Balneum Acidi Carbolici).—**Half to one ounce of phenol to 30 gallons of water forms a bath which may be prescribed with advantage in squamous eczema, psoriasis, lichen, phthiriasis. Except, perhaps, in the last-named disease, more advantage is generally derived from the bath of liquor carbonis detergens, which has very largely displaced carbolic acid in dermato-therapeutics. Some cases of obstinately relapsing vesicular eczema are benefited by a bath containing four to eight drachms of carbolic acid and half-a-pint of liquor plumbi subacetatis.

**Creolin Bath (Balneum Creolini).—**Half-ounce to an ounce and a half of creolin to 30 gallons.

The higher strength indicated gives rise to some smarting of the skin and it is better, therefore, to begin with a weak bath. Speaking generally, the higher strengths should be given at a lower temperature, especially if the duration of the bath is prolonged.

The creolin bath may be used as a substitute for the tar bath, than which it appears somewhat more stimulating. Some cases of old standing *pustulosis* (*pustular eczema*) in which there is much infiltration and inflammation of the derma are

benefited by the continuous application of lead lotion and the daily use of the creolin bath at about 90° Fah. for an hour. In the same way *impetigo contagiosa*, *ecthyma*, and *furunculosis* are also improved by this bath.

Apart from benefit to their skin disease, it is very noticeable how patients express themselves benefited in general health by various baths, and this I think is more generally true of the tarry baths, such as creolin.

**Lysol Bath (Balneum Lysis).**—Lysol efficiently takes the place of creolin and of carbolic acid. Compared with the latter, it is perfectly soluble in all proportions of water, and, as contrasted with creolin, it forms a clear solution not a milky emulsion.

**Creasote Bath (Balneum Creasoti).**—This bath contains two drachms of creasote mixed with two ounces of glycerine and added to the bath water. It may be prescribed in psoriasis, squamous, and itchy affections. Some vesicular forms of eczema are benefited, and the bath may be prescribed for papular diseases generally.

**Sanitas Bath.**—A few ounces of Sanitas fluid added to a warm bath is an agreeable substitute for the tar bath in some moderately pruriginous cases.

**Boric Acid Bath (Balneum Acidi Borici)**—

A bath containing four to eight ounces of boric acid is of very marked and general usefulness when it is desired to cleanse the integument by means of a bland antiseptic bath. It is excellent in all pustular diseases, such as impetigo contagiosa, pustular eczema, acne, ulcers, unhealthy wounds, scabies complicated with much impetigo or eczema, pustular syphilides, conglomerate folliculitis, such as accompanies pediculosis. Many cases of crusted eczema are benefited and pruriginous eruptions relieved. It is a bath to which I have frequent recourse.

**Resorcin Bath (Balneum Resorcini).**—One to three ounces of resorcin may be dissolved in a bath. It is applicable for chronic infiltrated eczema, chronic seborrhoic eczema, psoriasis and lichen. In certain parasitic dermatoses its use will be beneficial, such as favus of the non-hairy parts; tinea circinata; pityriasis versicolor; scabies; sycosis; lepra; and psorospermiosis cutis; a very weak bath may be tried in exfoliative dermatitis. Keratosis pilaris is much benefited by a moderately strong bath.

**Condy's Fluid Bath (Balneum Permanganatis.)**—A bath containing twenty grains or more of permanganate of potassium may be used in some cases of pemphigus foliaceus; chronic eczema; impetigo contagiosa, and in ulcerations whether syphilitic or not.

**Lead Bath (Balneum Plumbi.)**—A bath containing a pint of glycerine and four to eight ounces of liquor plumbi subacetatis may be used in irritable erythematous or vesicular conditions where an astringent rather than an emollient is indicated. Some pustular cases are benefited, and I have found the bath useful in widespread pemphigus, as well as in severe eczema rubrum and dermatitis herpetiformis. In a disease like pemphigus foliaceus, where an astringent disinfectant seems called for, this bath might be used. Its use should be occasional only and its duration brief.

**Acid Bath (Balneum Acidum.)**—Baths containing nitric or hydrochloric or nitro-hydrochloric acid are used to a limited extent as stimulants chiefly for the relief of itching in chronic lichen and prurigo. The 30 gallon bath may contain one ounce of nitric acid; or the same quantity of hydrochloric acid. The nitro-hydrochloric bath is best prepared by mixing an ounce each of nitric acid and hydrochloric acid, allowing the mixture to stand in a lightly covered glass vessel for twenty-four hours before it is added to the bath. The balneum acidum of the Hospital for Skin Diseases contains an ounce and a half of nitric acid and one ounce of hydrochloric acid.

Vinegar baths are useful in pruritic eruptions. One or two pints of vinegar should be added to the bran or starch bath.

**Iodine Bath** (*Balneum Iodinii*).—A bath containing free iodine is rarely used as an alterative stimulant for chronic skin affections, especially such as depend on some constitutional dyscrasia. Syphilodermata and scrofuloderma may be treated with this bath. Half a drachm of iodine and half an ounce of iodide of potassium, dissolved in four ounces of water, and added to the bath : or a drachm of iodine may be dissolved in two ounces of liquor potassæ. I have frequently thought that cases of chronic pemphigus have received benefit from it ; not when the bullæ are actively erupting, but when the disorder appears to be inclined to mend. If the disease is active the iodine bath may be too stimulating and lead to a distinct aggravation or increase in the eruption, while its beneficial effect is seen late in the disease when the bullæ are few, and erupted at long intervals. I believe, moreover, that the practice is good to prescribe a continuance of the iodine bath long after the skin eruption has ceased to appear. In these cases, where the skin is sound, the iodine immersion may be advantageously preceded by a good soaping in an ordinary warm bath. Scrofulous, syphilitic, parasitic, and squamous diseases are appropriately treated with iodine or bromine baths.

**Bromine Bath.**—Bromine may be substituted for iodine, over which it appears to have no marked



advantages, while in some respects it seems less indicated.

**Sublimate Bath (Balneum Mercuriale).**—This bath is rarely used and has no particular advantage, although Cooper says that “for children suffering from cutaneous symptoms of hereditary syphilis, the frequent use of a bath containing from 20 to 40 grains of the perchloride is often followed by excellent results.” The same bath used by adults leads to the disappearance of slight manifestations of skin syphilis, but similar results may be obtained by the use of the plain warm bath and the treatment of severer forms of syphilis by these means is unsatisfactory. To obtain decided benefit the duration of the bath should be much prolonged, and the use of baths of long duration are found trying to the patience and strength of sufferers, and consequently unsatisfactorily in practice.

Brocq speaks of the sublimate bath as of great service in parasitic affections. It was formerly in use for Pityriasis rubra.

There is a distinct element of danger and uncertainty in using both this bath and the next, which renders their employment undesirable.

**The Arsenic Bath** is nearly obsolete although still occasionally used by French dermatologists. One to three drachms of arseniate of soda are dissolved in 30 gallons of water.



**Salicylic Acid Bath (Balneum Salicylici).—**Contrary to what might be expected from the great value of the drug I have found but little use in the salicylic acid bath. It may be used in chronic eczema. The acid should be rubbed in a mortar with glycerine before it is added to the bath water, otherwise it will float; or it may be dissolved in water with the aid of borax.

**Sea Water Bath (Balneum Marinum).—**There was formerly a formula in the Pharmacopœia of the Skin Hospital for an artificial sea water bath, containing eight pounds of sea salt, two pounds of sulphate of magnesia, a pound of solution of chloride of lime (? calcium). But sea water finds no use in dermatological practice except it be as a tonic after treatment.

Sea baths, with or without the simultaneous exhibition of mercury, are highly thought of by many practitioners in the treatment of syphilis. O. Ziemssen's opinion is directly opposed to this combination, although he agrees that the tonic influence of the sea bath is useful in restoring the patient's strength after vigorous mercurial treatment.

The strongly stimulating sea bath finds little or no indication in skin disorders, unless it be ordered with a view to its tonic influence to raise the general health in cases of relapsing or chronic

affections supposed to rest upon a basis of constitutional debility. The cold, the contained salt, the exposure of the body to the impact of wind and wave, constitute elements which, if we are in ignorance of their intimate and minute action, are known to have tonic and stimulating general effects caused by the influence of the bath on the nerve centres.

Such disorders as relapsing erythemata, syphilis, urticaria, and pemphigus may in suitable cases be well treated, *in the intervals*, by sea-bathing.

**Salt Baths.**—The salt bath also is but little used in dermatological practice. The bath has a stimulating action which varies with the strength of the brine. For most skin diseases this bath is too irritating and is harmful; it may find an indication, however, late on in the process of cure of some inflammatory skin conditions with a view to ascertaining the reality of cure by “provocative” stimulation. A weaker brine bath is of value in some chronic dermatoses, and it has been suggested that it is not without action in improving the functional activity of the skin and in stimulating the production of healthy epidermis. Recent vesicular, pustular and inflamed eczemas, of course, contraindicate the use of even weak salt baths.

Some writers have urged the beneficial effect of strong brine baths in urticaria chronica; person-

ally, I have generally found the distress of these cases intensified by strong salt baths.

In America a strong saline bath is in favourite use in the treatment of Hebra's prurigo.

**Conium Bath.**—The *balneum conii compositum* of the Skin Hospital Pharmacopœia contained a pound of starch and two ounces of extract of hemlock, boiled together in a gallon of water, and added to the bath.

This bath, like others made with infusions of various herbs so much in favour with some French dermatologists, is hardly ever used.

Professor Charteris found excellent results in a case of *eczema rubrum* of arms and legs of eight months' duration. He suggests "that it is advisable to cover the bath with oil silk, leaving the head bare. In this way there is no chance of headache from the inhalation of the conium vapour."

Baths of herbal decoctions (camomile, lime-tree leaves, etc.), are not used in England, although they still find favour with Brocq, who boils about two pounds of the herb with a gallon of water and adds it to the bath.

Aromatic and perfumed baths find no place in the dermatologist's pharmacopœia, but Brocq tells us that the *Bain de Pennès* is much esteemed by the French public. As an ex-

ample of an aromatic bath its formula may be given:—

Brômide of potassium		
Carbonate of calcium, of each	1	gramme
Carbonate of soda	300	„
Sulphate of soda	5	„
Alum	1	„
Sulphate of iron	3	„
Oil of lavender		
Oil of rosemary		
Oil of thyme	of each	1 „
Tincture of stavisaigra	50	„

Neither do compound baths in imitation of natural waters find favour in England. An artificial Baréges bath may contain sulphide of sodium, 2 ounces; chloride of sodium, 2 ounces; carbonate of soda, 1 ounce. This is a more agreeable bath than the ordinary *balneum sulphuretum*.

Kaposi uses an alum bath (about 1lb.), and also a bath of acetate of alumina. A tannin bath is prescribed by Besnier in *Lichen ruber*.

The addition of soap to the bath is called for in diseases like chronic psoriasis, seborrhœa, ichthyosis, scabies, keratosis pilaris and pityriasis versicolor.

**Hebra's Continuous Bath or Water-bed.—**

Hebra's continuous bath was originally suggested and used for that class of cases in which extensive areas of the papillary layer were denuded of the epithelial covering, and in which, therefore, it was essential to supply a general bland protective covering to the exposed derma. Its use, however, soon extended to cases of phagedena, sloughing of cellular tissue, multiple ulcerations, bedsores, and to cases attended with profuse and fœtid discharge, such as some chronic ulcers of the leg.

The bath is constructed so as to allow the patient to live in the water for several months if necessary, leaving it only to relieve the bowels. "The bath is six feet long, by three feet broad, made of wood, and lined with zinc; exactly fitting its interior is an iron framework, which supports the ordinary undergirths of a bed. At about two feet from the end of this frame is attached a back support which moves on a hinge, and by means of a simple piece of rack-work, can be fixed at any slope the patient finds most comfortable. The whole bed is covered with a blanket, and rejoices in a horsehair bolster being suspended in the bath by bands attached to both its extremities; two small rollers, with handles attached, are carried by the bath case at head and foot, and receive these bands, thus enabling the bed to be raised or



lowered at pleasure."\* A stream of water, at 95° Fah., is kept running through the bath.

"The feelings of lassitude, usually attributed to the warm bath, are not experienced in the continuous bath. During the first four or five days, the whole surface, with the exception of a slight raising of the epidermis of the fingers and toes, undergoes no perceptible change. After that time there occurs, in almost all, especially those who have much swelling of the feet, sharp pains in the plantar surface, which lasts for some days. For the alleviation of this it suffices for the patient either to have placed under the soles of the feet a firm horsehair pillow, against which he can press, or to have cushions placed under his feet, so as to keep them for some hours above the water. In individuals with a delicate skin there are frequently produced after they have been in the water a week or two, large broad patches of artificial papular eczema, which are accompanied by great itching. Frictions with oleum rusci, while still remaining in the water, are always sufficient to cause the disappearance of the eruption."

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\* This bath may be made by a handy local artificer, as was the case with those in the Vienna General Hospital, which were made by a hospital workman; or it may be obtained complete from Esterius, 2, Mariannen Gasse, Vienna, at a cost of about £20. The *Ärztlicher Bericht des k. k. allgemeinen Krankenhauses zu Wien* for 1882, contains drawings and diagrams which would materially guide a technologist in constructing a Hebra's water-bed.



The old views against the bath during menstruation, have been largely overcome by Hans Hebra's continuous bath treatment, and women treated by this bath are not removed during the menstrual period. Nevertheless, I have seen in my practice sufficient evidence of disturbance resulting from medicated baths being taken during the menstrual period that I invariably suspend bath treatment in women at this time.

The influence of the continuous bath on sloughing and callous ulcers of the leg is thus described by Kaposi, "It is absolutely wonderful within how short a time the beneficial effects of this plan may be apparent. At the end of the first day, or from that to three days, or even within a few hours, the most severe phlegmonous inflammation of the skin is checked, the redness, swelling, and painfulness of the skin surrounding the sloughing parts diminish, the fever abates, the dryness of the tongue disappears, sleep and appetite return. At the same time, the necrosed tissue begins to loosen and separate. A rapid, luxuriant, sometimes even an excessive, formation of granulations follows, requiring, in the latter case, the application of the usual caustics to make them shrivel up, and at length, while the bath is still continued without intermission, complete cicatrisation occurs.

“If we add to these facts the further advantages that, as soon as the bath is commenced, dirty and sloughing wounds lose the offensive odour which otherwise poisons the atmosphere of the ward, that a spontaneous constant cleansing occurs, that the water bath does away with the necessity of spending labour and money in the ordinary means for purifying the wounds, that the patients when in the bath soon lose their pain, previously so severe, and, indeed, feel very comfortable, we cannot too warmly espouse following these indications of a wide-spread usefulness of the continual bath.

“In chronic ulcers of the leg, as a rule, we have no separation of such large masses of necrosed tissue as in gangrene, but merely thin, superficial layers. Continual fomentation, however, acts just as well in the one case as in the other, and leads to such a change in the condition of the tissue as predisposes it to a healthy and active formation of granulations. Its action is especially evident on the indurated margins, and hard, sclerosed granulations of old, sluggish ulcers, which, under this treatment, become soft, movable, and well adapted for cicatrisation and diminution of the wound (by contraction).”

The continuous bath is of great value in hospital phagedæna, syphilitic phagedæna, burns, and severe pemphigus, but may also be used in

general eczema, exfoliative dermatitis, psoriasis, and chronic ulcers of the leg. The continuous bath may be medicated, as with tar for psoriasis, if indication exists, and for this purpose there is attached to the head of the bath a mixing chamber, into which the service pipe first empties.

**Vapour or Steam Bath.**

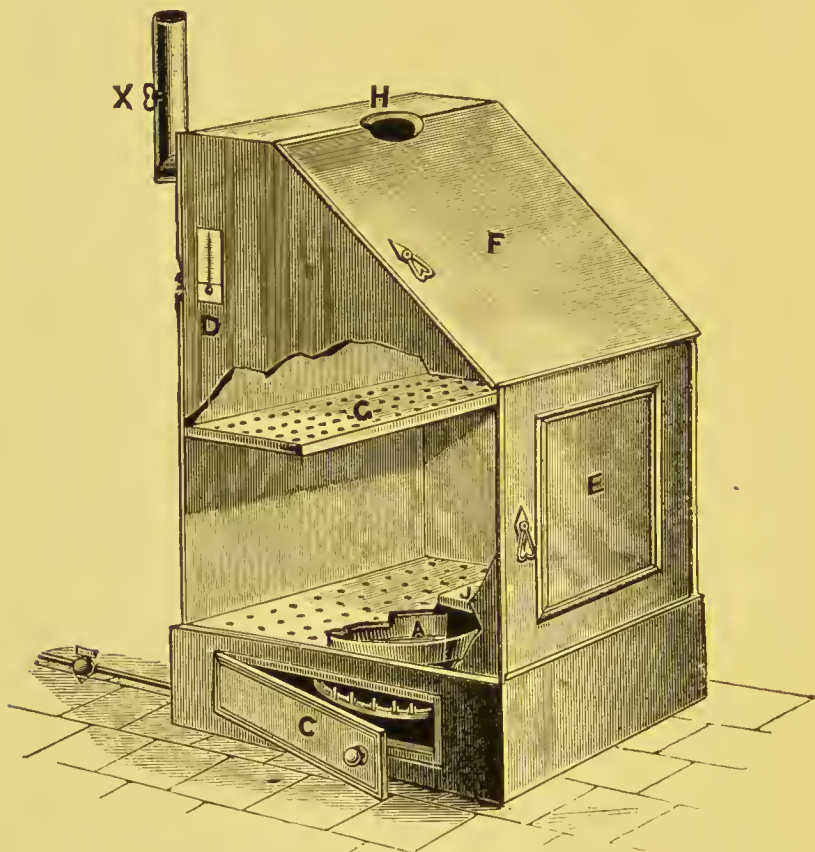
**Turkish or Hot Air Bath.**

**Medicated Vapour Bath.**

With slight variation in detail, the same apparatus may be used for the Hot Air, Steam, or Medicated Vapour Bath. The sketch represents the general form of a fixed or permanent bath, and may be considered a fairly satisfactory and convenient one. A disadvantage, however, is the time necessary to get it sufficiently hot for use. It should be placed in a room capable of being warmed when the bath is used.

At **D** on the outer wooden casing is placed a thermometer with a strong metal-protected bulb projecting into the chamber of the bath. By its means the temperature within is indicated and can be read by the attendant. It is a matter of practical moment that the bath be heated *previous* to the entry of the patient, otherwise the excessive duration of the bath necessary to obtain results renders it unbearably tedious. The floor is formed by a perforated stone or concrete slab

which becomes hot when the bath is in use and through the perforations of which the steam and mercurial or other vapour enter the chamber.



The seat **G** and footstool **J** are also perforated, and may be raised or lowered to any required height.

The method of using the bath is as follows:—

A blanket is thrown over the top of the cabinet, covering the hole **H**. This blanket is used to wrap

the patient on leaving the bath. If we wish to give a steam bath the dish **A** is filled with water and the gas jets are lit, the door of the heating chamber being at once closed. The valve (**X**) in the flue must be open, otherwise the gas jets will be extinguished by the confined products of combustion.

The water in the dish is vaporised and may require to be replenished in about ten minutes. By its diffusion within the bath it assists the equable heating of the contained air and material of the apparatus. The thermometer slowly rises and with average gas pressure it will register 80° Fah. in twenty or thirty minutes. The patient now (or later) strips and quickly enters the bath, the lid (**F**) and the door **E** being opened for this purpose.

It will be seen that the patient is now sitting in a steam bath of which the temperature is steadily rising. At first care must be taken that the tray (**A**) contains water, and after this, when inspection shows that the tray is dry, the mercurial salt (if we wish to give a mercurial vapour bath) may be placed upon it and will be very quickly volatilised. Within a few minutes of entering the bath the patient will begin to sweat, and before the séance is finished this will become very profuse, so much so that not unfrequently the perspiration can be heard falling with a hissing sound upon the hot



stone floor of the bath. The duration of the bath should not exceed twenty minutes. With the profuse steaming which bath attendants are apt to give, a temperature of 90° Fah. is sufficient for the first sitting of a steam bath. This may on subsequent occasions be increased to about 100° Fah. The maximum temperature which patients care for is about 105° Fah., of course much higher temperature may be used if the air is kept dry, and the apparatus used as a Turkish bath. In fact, the temperature which patients will bear largely depends on the amount of steam in the vapour bath. At the conclusion of the bath the doors **E** and the lid **F** are opened, and the patient steps out usually in a cloud of steam, while the interior of the bath presents evidence of the profuse perspiration which he has undergone.

Should faintness occur during the bath the patient should at once be removed and placed on a couch. After cooling, he should take an ordinary washing warm or tepid bath. This cabinet may be used without water vapour when it forms a hot-air or Turkish bath.

Portable vapour or Turkish baths are sold by most instrument makers, and have advantages over the cabinet bath described. An excellent form, with mackintosh cloak lined with flannel, lamp, boiler, and gauze cover, suitable for



fumigation, may be obtained from Mr. T. Hawksley, 357, Oxford Street, W.

Tilbury Fox quotes a simple way of improvising a vapour bath apparatus.

“ Boil two gallons of water ; at the same time put into the fire half a brick, which must be heated to redness ; have a cane-bottomed chair and a hot bath to the feet, with a large blanket in the room ; put the boiling water into an earthen pan, and place it under the chair : then put the red-hot brick into the pan. The patient is to be seated on the chair in a state of nudity, with the feet in the foot-bath, and then to be covered except the head and face, with the blanket. By these means the steam is kept upon the surface of the body for the space of fifteen or twenty minutes ; after which the patient is to be well dried and retire to a warm room, or be placed between the blankets.”

The temperature of the vapour bath must be regulated by the quantity of steam present within it, that is, by the quantity of water vaporised during the bath. With a free use of water and a duration of the bath of about twenty minutes, few patients care for a temperature much above 100° Fah. This produces very copious diaphoresis and is sufficiently depressing. With a shorter stay in the bath or a less copious steaming, the temperature may be advanced.

The hot-air, or Turkish bath, must be used with discrimination and caution in many skin diseases. Actively inflammatory diseases will generally be injuriously affected. Benefit may be derived where the indication is clearly to stimulate increased functional activity of the sudoriparous glands, but this indication seldom occurs in skin disorders. As T. Fox has pointed out, the dermatologist never uses the Turkish bath with the idea of "sweating-out" impurities through the skin.

The vapour bath is much more depressing than the hot air or Turkish bath, but neither of these forms of bath are much used in the treatment of skin diseases. Ichthyosis and xeroderma; anidrosis; keratosis pilaris, and particularly syphilis, are so treated.

The Turkish bath is occasionally beneficial in prurigo senilis, and especially in acne.

The vapour bath is of service in those cases of chronic psoriasis, in which there is much accumulation of hard and dry scales. The effect is to immediately loosen these accumulations better than any other means. At the same time the patients frequently express themselves as feeling much relieved by the bath, although in recent cases there may appear to be extension or confluence of individual small plaques, as the result of the bath.

Vapour and Turkish baths have been useful in the hands of Dr. Milton, in the treatment of psoriasis and eczema, while the Turkish bath has proved more beneficial in prurigo.

The vapour bath is of use in some cases of chronic lichen planus.

The vapour bath, medicated by herbs, has quite fallen into disuse. In eczema, psoriasis, and pityriasis, pine-leaf vapour baths and mud cataplasms are no longer necessary.

Heuss has shown that the influence of the vapour bath resembles that of injections of pilocarpin. It leads to a diminution of the acidity of the sweat.

As has been pointed out, vapour baths raise the body temperature and increase tissue metamorphosis. This latter action may be a material element in the success of this system of treatment.

**Mercurial Vapour Bath.**—The name of Langston Parker will be always identified with the treatment of syphilis by means of mercurial vapour, and it will be of service to here quote from the works of this surgeon.\* It will be seen that he used a portable apparatus, which is extremely convenient.

“The patient is placed on a chair, and covered

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\* The Modern Treatment of Syphilitic Diseases. 3rd edition. 1854. John Churchill.

with an oilcloth lined with flannel, which is supported by a proper framework. Under the chair are placed a copper bath, containing water, and a metal plate on which is put from one to three drachms of the bisulphuret of mercury or the same quantity of the gray oxide, or the binocide. Under each of these a spirit-lamp. The patient is thus exposed to the influence of three agents, heated air, common steam, and the vapour of mercury, which is thus applied to the whole surface of the body in a moist state. After the patient has remained in the bath from five to ten minutes perspiration generally commences, and by the end of twenty or thirty minutes, beyond which I do not prolong the bath, it is generally excessive. The lamps are now removed, and the temperature gradually allowed to sink; when the patient has become moderately cool, the coverings are removed, and the body rubbed dry; the patient is suffered to repose in an arm-chair for a short time, during which he drinks a cup of warm decoction of guaiacum or sarsaparilla.

“The apparatus requires some modification and management to suit particular cases. Where it is wanted to induce a quick and decided action the whole power of the bath should be brought into operation, and the largest quantity of mercury should be employed. In rapidly spreading ulcers

this is required. Again, in chronic skin or throat diseases, where a powerful action would rather oppress the patient than cure his disease, the power of the bath should be modified, and not so great a heat or so much mercury employed. . . . This should be done where the patient has been broken down by long-continued disease, in bad or weak subjects, or where a more prolonged action is required to eradicate the more deep-seated effects of the venereal poison, as in diseases of the bones, or indurations in the penis. . . . The form of mercurial employed is also of consequence. In skin diseases the bisulphuret is to be preferred, in diseases of the throat or nose the gray oxide, or biniodide is better, because the patient can bear the head immersed without sneezing or coughing, which he cannot do when the bisulphuret is used.

“I am in the habit of using four mercurial preparations for the bath ; the bisulphuret of mercury, the binoxide of mercury, the grey or black oxide, and the iodide. These may be used singly or combined in different ways to suit the peculiarities or emergencies of each particular case. The first three preparations are milder than the last, and from half a drachm to four drachms may be used for a bath with perfect safety. In one case half an ounce was used for each bath, and two applications were sufficient to bring the system fully under the

influence of the remedy. The iodide must be used in smaller quantities . . . from five grains to half a drachm of the iodide is sufficient . . . In affections of the testes (sarcocle) and of the bones, a combination of a scruple of the iodide with one or two drachms of the bisulphuret or binoxide would be a proper form. For local application to the cavities of the nose and mouth a few grains only should be employed, as the vapour of the iodide of mercury is more irritating and more powerful than that of either of the other preparations I have mentioned."

It is to be remarked that Parker did not use calomel for his baths. He speaks in the words of an enthusiast throughout his cases, alleging that "the moist mercurial vapour will do more in a month than any other treatment in six"; and again, "should the patient be labouring under general constitutional taint and exhibit as local symptoms, loss of hair, sore throat, ulcers of the nose, or skin diseases, he almost invariably gets fat under treatment."

Like Parker, Mr. Henry Lee uses a portable apparatus, but selects calomel as the mercurial agent. While the patient sits in a chair placed over the lamp and is enveloped in a cloak which covers both chair, lamp, and patient up to the neck, calomel and water are vaporised.



Now it is important to observe that Langston Parker generally ordered the head to be immersed in the bath, and the mercurial vapour to be thus inhaled. It is, in fact, to my mind more reasonable to attribute the larger share of the mercury in producing his good results to this mercurial *inhalation* than to the mere exposure of the skin to the influence of the mercurial vapour. "The mouth is commonly affected, after using four or six baths, *more quickly if the head be immersed, which is better. Some patients can bear the head in the bath for five, ten, or even twenty minutes, without inconvenience.* Patients vary in this particular, and it depends very much on the form of mercurial employed. The gums, when affected, are red, elevated and tender; but the baths never produce salivation or ulceration of the mouth." And again, "*The head was immersed at intervals during the time the patient remained in the bath, a practice which ought always to be followed where the hair comes off, and in diseases of the throat and nose*" (Case xlix.).

This inhalation of the contained vapour is impossible in using the gas-heated cabinet bath, for the ventilating flue never acts sufficiently well to render the contents respirable.

Parker gave a bath every other day, sometimes daily with few omissions, for a series of four to twenty, or a strong bath, "half-an-ounce of

bisulphuret for each fumigation, twice a week for nine weeks."

The general treatment of syphilis adopted by this surgeon was supporting. We find him ordering "wine and water" and in other cases he records "the diet was good, wine and ale being freely given." "She was directed to live on beef-tea, milk, eggs and cocoa." Another aspect of his treatment was the exhibition of diluents, especially during or after the baths, cold infusion of sarsaparilla in lime water; hot decoction of guaiacum night and morning; plenty of sarsaparilla broth (half a pound of compound decoction of sarsaparilla with half a pound of beef simmered down to half its bulk and drunk *ad libitum*). Frequently, though not exclusively, the baths formed the only specific treatment employed.

Now in recording one case our author tells us, "He had tried the common vapour bath when away from me with very little benefit." I also have exclusively treated the first manifestations of secondary syphilis with the steam bath to induce profuse perspiration with very unsatisfactory results. The results obtained by the mercurial vapour bath are more satisfactory, but I have practically discarded the use of the cabinet in giving these baths, believing that to get the full benefit we should prescribe, as Parker did,

the simultaneous inhalation of the atmosphere of the bath.

The mercurial vapour bath is objected to by Dr. Oswald Ziemssen, who dismisses its consideration in a very few words.

As I have hinted there is a great tendency on the part of bath attendants to overdo the preliminary steaming in giving mercurial vapour baths, and especially when using the cabinet bath. This is disadvantageous in more ways than one, and should be guarded against by the personal supervision of the physician. Only sufficient water should be used to start the perspiration, and in many patients the conjoint use of water may be advantageously entirely dispensed with.

A localised mercurial vapour bath\* for palmar syphilis may be extemporised by inverting an ordinary hat box, underneath which is placed a spirit lamp and tripod supporting a porcelain evaporating dish, in which is placed the calomel. A hole cut in the side of the box allows the hand to be introduced into the bath.

**The Sulphur Vapour (or Fumigation) Bath** is but seldom used in skin diseases, and other forms of medicated bath may with advantage be

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\* Wells and Hunter.

substituted for it. Possibly in some cases of syphilis, or mixed syphilis and seborrhœa, good may be derived from this method of applying sulphur, and the bath is occasionally used for its parasiticial action. From half an ounce to an ounce may be vaporised. It is usual to simultaneously use steam in this vapour bath as it is in mercurial fumigation. This bath may be improvised in a portable apparatus by vaporising the sulphur on a heated surface either of iron or brick.

## P A R T   I I I .

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### DISEASES.

In some skin affections (*c.g.* Lepra,) the use of the bath can be from the nature of the disorder palliative only, while in another and larger class of diseases there is no line of distinction between palliative and curative action. In this latter class, which includes most cases of eczema, lichen, exfoliative dermatitis and psoriasis, it will be found that baths which relieve the subjective symptoms will be found of greater or lesser permanent benefit to the disease and to expedite the disappearance of the objective phenomena. Moreover, it will appear that in many cases of widespread or general eczema the properly-selected bath is not merely ancillary to other methods of treatment, but is to be considered, *per se*, the principal and proper remedy for the cure, and consequently the prescription upon which most reliance is to be placed and most persistence practised. In many inveterate cases of general eczema I have convinced myself of the soundness of such a policy. It is to be noted that it is not all skin diseases which we may hope to benefit by bath treatment. Not all stages or conditions of even curable affections are ameliorated. In the

following index of diseases I have endeavoured to briefly point out those conditions in which it may be hoped to secure benefit as well as to indicate some of the precautions necessary to be observed in the selection of a bath suitable to the case to be treated. It is scarcely necessary to add that sound judgment is essential in this branch of therapeutics as much as in others, and that soundness of judgment can come in many instances only with experience and careful observation.

**Acne.**—Widespread acne of the back may be stimulated by the hot sulphur bath, with which frictions of soft soap may be used. When hyperæmia and tenderness are marked more benefit will be obtained from hot or warm emollient or alkaline baths. The habitual use of the morning cold or tepid bath or of sea water is indicated to preserve the tone and general health of most acne patients. The hot air bath is frequently used in this disease. Where much pustulation is present a prolonged boric acid bath is useful. A good method of treating acne of the back is to give a hot air or Turkish bath followed by a hot bath. The spots are then freely dabbed with lysol, which remains on the parts a few minutes when it is to be washed off by means of the shower bath.

**Acne Cachecticorum.**—The iodine and bromine baths are not without beneficial influence in some



cases of widely diffused acne occurring in scrofulous subjects. The acid bath is of occasional use, but the alkaline or emollient bath will be generally preferred.

**Anidrosis.**—The warm bath with skin massage may be prescribed. Crocker suggests the alkaline and vapour baths with cold sponging in the morning, but he warns against the Turkish or hot air bath.

**Argyria (Silver Stain).**—Two cases (in syphilitic patients) have been reported of slow decolorisation by means of mercurial vapour baths and prolonged use of iodide of potassium.

**Bullous Diseases.**—*Vide Pemphigus and Pustular Diseases.*

**Burns.**—*Vide* Hebra's Continuous Bath.

**Chloasma.**—*Vide* Pigmentations.

**Cicatrices.**—Some of the indifferent thermal springs have acquired a reputation for the treatment of cicatricial contractions. This is incidentally mentioned, although it strongly suggests bias in the observer.

**Comedones.**—The same treatment may be adopted as is recommended for acne.

**Dermatitis Herpetiformis.**—Stimulating remedies are generally of more use than soothing ones. There are, however, some aspects of this disease, as when extensive denudation from ruptured bullæ is

present, in which a more soothing treatment seems desirable, and here the size or bran bath with borax or carbonate of soda may be employed. In such cases the bath should be followed by the application of some bland oil or calamine lotion. For the less acute forms the sulphur and tar baths are more suitable. Kaposi uses the continuous alkaline bath in some stages of impetigo herpetiformis.

**Dermatitis Medicamentosa.**—The irritation of some of the drug exanthemata (*e.g.*, copaiba rash) may be relieved by the warm alkaline bath. A case of general papular morbilliform eruption following the application of belladonna plaster to the chest was also much benefited by an alkaline bath. The situation to which the plaster had been applied was acutely inflamed, and this, too, was improved. A condition of erysipeloid dermatitis of the knee, induced by iodine paint, was immediately much ameliorated by an alkaline bath.

**Dermatitis Exfoliativa (Pityriasis Rubra).**—This is one of the disorders for which the continuous bath should be used when it is available. Benefit is obtained in most cases from the bath of moderate or extended duration, and at first at any rate it is well to begin with the emollient bath. To this later may be added borax or soda. In some cases the duration of the bath may appropriately be prolonged or even continuous. It is imperative

that the skin should be well anointed with a bland oil or ointment after the bath, otherwise its full benefit is not attained, and the skin may even appear more brittle. Neatsfoot oil and Oleum Delinae are very grateful for this purpose. These cases of dermatitis are generally treated by confinement to bed and the continuous application of lotion or ointments or by oil packing. When oil or ointments are adopted the use of the bath twice or thrice weekly will be found advantageous, as it will limit rancidity. These greasy cases should always be well rubbed with warm scalded bran while in the bath.

**Dysidrosis.**—*Vide* Pompholyx.

**Ecthyma.**—*Vide* Impetigo Contagiosa.

**Eczema.**—Plain washing baths are nearly always injurious in eczema (except in certain cases of the pustular form); but the case is different when emollient or alkaline baths are used, for these are of considerable value in most varieties of eczema. Before selecting and prescribing the bath, however, it is necessary to give careful consideration to the individualities of the case and often to act with caution.

Speaking generally, it may be said that emollient and alkaline baths are of importance for the purpose of allaying irritation in the early stages of inflammatory skin diseases. Moreover, the advan-

tage derived from these baths will be increased by the after use of mild protective applications either in the form of powder, liniment, oil or ointment. In some cases, especially where the elementary lesion is vesicular or papular, calamine lotion may be preferred and is useful where large surfaces have to be covered. The bath to which I give preference in vesicular eczema is one containing two ounces of borax, two to four pounds of clarified size, and thirty gallons of water. At first the temperature of the bath is  $86^{\circ}$  to  $92^{\circ}$  Fah., but as the disease improves the temperature may be increased to  $92^{\circ}$  or  $98^{\circ}$ , while in some longstanding pachydermatous cases a higher temperature is often beneficial from the commencement. The relief by these means of the irritation accompanying acute eczema is very marked, especially if, as advised, care be taken after the bath to apply a neutral topical application. In this way the part denuded of the horny layer is protected and the consequent irritation allayed.

Some acute or subacute cases of vesicular and impetiginous eczema, especially if they manifest a tendency to spread, must be guardedly bathed. These cases require in the first instance the most soothing baths only, and above all careful attention to the temperature and duration.

Many cases which appear to be aggravated by a given bath will be benefited by the same if given at a lower temperature. It is in those cases of eczema in which the hyperæmic state is very active that care should be used and if the precautions as to composition and temperature are duly observed, we need not be deterred from bathing our eczemas.

The traditional warning that plain water washing baths aggravate eczema has been, it is to be feared, involuntarily and imperceptibly extended into an implied prohibition of the bath generally, until the medical mind has arrived at an attitude of causeless and unthinking neglect of a remedy of the greatest use in this disease—viz., the medicated bath, appropriately selected and judiciously administered.

Since I have learned to give baths of tepid temperature only to cases of acute eczema I have constantly been on the look out for a case which the bath injures or fails to benefit, and I have not yet found it. In case the physician has misgivings there can be no harm in attempting to first subdue inflammation by oily or other bland applications. A little experience will soon guide the practitioner as to the "stage" or condition of the eczema calling for baths of particular prescribed contents and temperature.

Hebra has pointed out that in the treatment of eczema by baths, the most successfully employed mineral springs are those which have a temperature of  $68^{\circ}$  to  $88^{\circ}$  Fah., and this observation will be found in practice to be a valuable guide. I refer to acute erythematous eczema, and especially to vesicular eczema. A bath at a higher temperature will not unfrequently be found to have a distinctly injurious effect, and lead to disappointment of both physician and patient. Particularly is this so in cases of acute widespread eczema in the aged. This condition is often a serious one and significant of constitutional break-up permitting a bad prognosis. Baths at a temperature of  $98^{\circ}$  to  $100^{\circ}$  Fah. may very markedly aggravate the skin affection, and this is especially the case if there is naturally a disposition to free or profuse sweating. The effect of an emollient bath at the lower temperature indicated is however most beneficial especially if followed by a bland inunction such as olive oil or hot prepared lard.

In very prolonged cases of eczema where the lesion is acute, vesicular or erythematous, aim at securing a bath which soothes, and does not, in any way, either aggravate the eruption or produce increased diaphoresis. This being secured, do not seek a rapid improvement, but be content with progress, even if slow ; so long as the condition is



improving the same bath may be persevered in. In cases of more or less general vesicular eczema in old people, the treatment of which is often very tedious and unsatisfactory, I have been much gratified with the effects of emollient and alkaline baths at a temperature of about  $92^{\circ}$  Fah. Baths of high temperature are stimulating, and this is in such cases contraindicated. In vigorous young adults with acutely erupting eczema, I often give with advantage a bath as low as  $75^{\circ}$  Fah., for twenty minutes daily, generally containing size and borax. A week of this may so modify the eczema as to allow tar to be begun, as in the following case.

I. G., vigorous farm labourer, aged 30, with severe irritable vesicular eczema of trunk and thighs, was admitted February 10th, and ordered a daily bath at  $75^{\circ}$  Fah., for 20 minutes, containing two pounds of size and three ounces of borax. A week after, the disease had so improved that a bath, still at  $75^{\circ}$ , containing one ounce of Wright's solution of coal tar was substituted; on the 22nd, the quantity of tar was doubled, and he was discharged on May 10th, marked "cured."

Used with discrimination, the tar bath is one of the most valuable remedies for certain stages of eczema, and, moreover, when the disease

occupies an extensive area is one of the most grateful as well as convenient methods of treatment which can be selected. It is particularly in the selection of the proper cases adapted for this tar treatment that the experience and judgment of the physician is best seen. Speaking generally, it may be said that the more indolent and squamous the eczema the better this bath will probably agree. But it is those cases of squamous eczema in which there is little or no infiltration which receive most benefit. Uninfiltrated, chronic, discrete, patchy, squamous, widespread or general, eczema, in which there is not excessive itching, does well with tar. Many papular forms do well, although we occasionally find a papular eczema which tar irritates. Much harm may be done by this bath if the eczema is in an unsuitable condition for its stimulating effect; at the same time much valuable time is not unfrequently lost by undue timidity in its use. Tar is contra-indicated in the œdematous type of eczema. After a course of emollient or alkaline baths in the more irritable forms of general eczema, it is a good plan if in doubt to tentatively and gradually add to the alkaline bath small and increasing quantities of liquor carbonis detergens, and a very valuable bath indeed is made from borax and the tar solution. In most cases of

vesicular eczema it is well to let all tendency to vesiculation subside before beginning tar, but in many of these cases it is not necessary nor indeed desirable that we should delay the use of this valuable drug till all hyperæmia has subsided. In many such cases the tonic effect of tar appears to have the very best effect in expediting the cure.

For the tar bath we may substitute the creolin or carbolic bath. In chronic infiltrated eczemas approximating the pityriasis rubra type resorcin as a bath used in judicious strengths appears to be of great value and to have marked effect in diminishing infiltration. This bath should be gradually increased in strength and temperature. Many cases do well with a bath at 100° Fah. containing two ounces of resorcin. A good rule is,—the more indolent the disease the higher the temperature we may use. The old fashioned kreasote bath suits some cases of eczema, even when the lesion is vesicular. Cases of dry squamous and erythematous eczema of the legs do well with the boric bath, which is also of extreme value in acute crusted vesicular eczema of the extremities. In eczema of the feet and toes this same bath is of marked usefulness. I have seen urticaria excited by the use of the creolin bath in eczema. The continuous bath is used for

extensive or general eczemas accompanied with much denudation of the epidermal layers. The boric acid bath given every night is useful in some cases of general eczema.

Lassar teaches that the old idea that baths are contra-indicated in inflammatory conditions is erroneous, and urges their employment in eczema to remove crusts, to allay both itching and pain, and to stimulate resolution and absorption.

Kaposi tells us that in the developing period of acute eczema it is needful to forbid lotions and baths. This appears to be unduly absolute and exclusive, and does not coincide with English practice.

It may be well to here point out that in prescribing the bath for patients with skin diseases, the practitioner should accurately define (*a*) the nature; (*b*) the dose of the active agent he desires to be used; (*c*) the duration of the bath, and (*d*) the temperature. Without these data being expressly given by the medical attendant, the bath should as a rule be avoided as a method of treatment.

**Erysipelas.**—In the treatment of this disorder, Kaposi uses the medicated bath, as also in phlegmon.

**Erythema.**—Both the congestive and the inflammatory erythemata may be conveniently treated by the bath, especially when the disorder

is wide-spread. In nearly all cases the patient will receive relief and comfort from the emollient bath, while in some this will also appear to have an influence in modifying and curtailing the course of the disorder. The temperature generally should not exceed 98° Fah.; but if the disease is accompanied with febrile symptoms we may increase the temperature of the bath to about 100° Fah. Often it is indeed better to let the temperature be tepid at first. The erythematous drug eruptions are sometimes exceedingly irritable and the relief obtained from a warm bath containing boric acid or alkali is marked and grateful. In the later stages of erythema nodosum I have found the tar bath of use.

**Erythrasma.**—Treatment may be inaugurated with a sulphide of potassium iodine or resorcin bath to which is added free use of soft soap and the nail brush. The sulphur vapour bath is useful as a parasiticide agent in the marginate eczemas about the fork of the thighs.

**Exfoliative Dermatitis.**—*Vide* Dermatitis exfoliativa.

**Folliculitis** — Crocker recommends sulphur baths for the removal of chronic folliculitis of the thighs left sometimes after an acute eczema of the parts.

**Furunculosis.** — Boric acid baths, strong and



frequently repeated, should be used in general furunculosis, not as taking the place of other more potent local remedies, but as a valuable addition thereto, and more as a preventive than as a curative proceeding.

**Hyperidrosis.**—The hot bath is occasionally of use as a palliative. Boric acid is an appropriate addition.

**Ichthyosis.**—The alkaline bath (in bad cases with the free use of soap) is a useful method to adopt for the removal of accumulated scales. The bath is to be followed by the application of oil or of a glycerine lotion. It is, however, needful to persevere continuously in this method of treatment or relapse will take place. With constant baths and inunctions the skin may be kept in a fairly comfortable and presentable condition.

**Impetigo Contagiosa (and Ecthyma).**—The removal of crusts preparatory to treatment is best effected by prolonged immersion in a boric acid bath, which has the additional advantage of cleansing the general surface of the skin from pathogenic cocci.

**Keratosis Pilaris.**—Treatment may be begun by a prolonged immersion in a strong alkaline bath followed by free inunction of weak nitrate of mercury ointment. Later, more benefit will be derived from strong sulphur baths, while the



resorcin bath of gradually increasing strength is often distinctly beneficial. We must remember, however, that whatever remedy is selected treatment must be long continued and patiently persevered in.

Crocker suggests the same treatment as for xeroderma. Alkaline or vapour baths with soft soap inunctions followed by a warm bath and the application of a bland oil.

In chronic conditions, of which class we may take Keratosis pilaris as an example, there is a danger that we may overdo stimulating medication and substitute thereby for the condition we are called upon to treat a more acute and more distressing dermatitis. Care should be taken, therefore, when it is manifest that the needful degree of irritation by one remedy has been exceeded, that a more soothing line of treatment is adopted.

**Lepra.**—It is probable that some palliation of the early skin manifestations of leprosy may be affected by the bath. A leper told me that in the early days of his disease his symptoms were much benefited by sulphurated potash baths. The resorcin bath might be selected.

**Lichen Pilaris.**—The same treatment may be adopted as is suggested for keratosis pilaris.

**Lichen Planus and Lichen Ruber.**—We may say that in all cases, or all conditions of these

diseases, the alkaline bath is suitable, bran or some similar emollient being added if hyperæmia exists, while tar and sulphur baths are to be reserved for more chronic cases, in which hyperæmia is not pronounced. It may be observed that the expression "more chronic," does not necessarily imply cases of longer duration, but those in which the pathological processes are less active and the general clinical characters more indolent.

Cases in which there is manifest inflammatory action *should* be treated with the alkaline bath; and this may be followed by the application of some oily preparation, such as weak carbolic oil.

Experience shows that this procedure is far more beneficial where much hyperæmia exists, than the use of more stimulating methods of treatment. The hyperæmic or acute forms of lichen may be aggravated beyond endurance by the tar bath and those stimulating applications which will benefit more chronic or less congested cases. Those acute hyperæmic cases, which are injured by tar, and benefited by oil inunction, are very greatly improved or cured by the shower bath. The acid bath formerly enjoyed considerable reputation in Lichen.

In chronic cases of lichen planus, Tilbury Fox used vapour baths, followed by the application of oil or unguentum diachyli. Sulphurated potash

baths may be used in this disease, although generally speaking they will be found of less advantage than others.

In a case of lichen ruber occurring in a boy, aged 13, the treatment consisted in the persevering use of tar lotions. When the involution of the lesions was well advanced, the lad developed, as is not unusual, a good deal of tar acne and xeroderma, and here the beneficial influence of a bath containing an ounce of strong nitric acid to 30 gallons of water was immediate. In another and similar case, however, this acid bath produced no effect.

In this disease, as in its congeners lichen planus, lichen acuminatus, pityriasis rubra pilaris, the bath should be prolonged and frequently repeated. In fact, as has been before pointed out, one of the indications both for prolonged and for frequent baths is chronicity. With regard to the two diseases, lichen ruber acuminatus and pityriasis rubra pilaris, this aspect of the treatment is insisted upon by Galewski, of Dresden, who says that the use of salicylic acid should be preceded by prolonged immersion in a bath. Besnier and Doyon, too, find advantage from the employment of prolonged baths, either simple or medicated with borax, or tannin, or tar.

**Lichen Scrofulosorum** — The mixed tar and

alkaline bath used at 100° Fah. daily or on alternate days greatly expedites treatment by the more usual remedies.

**Lichen Urticatus.**—*Vide* Urticaria papulosa.

**Pediculosis Corporis.**—While the clothes of the patient are being baked at 220° Fah., he himself receives a prolonged alkaline bath with soap, the body being afterwards well anointed with unguentum stavisagriæ or a weak mercurial ointment. If the skin is much irritated a calamine or tar lotion may be prescribed. A similar treatment substituting the carbolic acid bath is the usual routine treatment.

**Pemphigus**—Reference is made elsewhere to the great value of Hebra's continuous bath in pemphigus. The medicated bath of short duration is not generally looked upon as of value in this disease, but personally my views as to treatment have led me to freely use and rely largely upon the bath, and so far with, generally speaking, favourable results. I regard it as necessary to keep the skin free from all decomposing discharges, which I have little doubt act as an irritant if not as a more direct cause of bullæ. Brocq's views appear to be somewhat of the same when he says : "Before everything it is necessary to protect the patient . . . from every cause of auto-inoculation." The use of the boric bath of low strength

and low temperature, to which is added an emollient, I have found grateful and I believe valuable in acute and rapidly progressive pemphigus. It is quite certain that stimulating or irritating baths *are* injurious in this disease when the eruption is active, and I have observed a marked increase of bullæ immediately following and without doubt due to the iodine bath used in the erupting stage. The bath selected should be as soothing as possible, and particular attention should be directed to the temperature, which to begin with should be indifferent, say, from 90° to 94° Fah. I place more reliance upon boric acid than upon any other drug. The unirritating astringency, with its antiseptic action, seem generally indicated. Starch should be added to the boric bath. In the bullous diseases of the newly-born, whether due to syphilis, true pemphigus, or to epidemic pemphigus, this boric starch bath is of the highest value as an addition to our treatment.

Pemphigus foliaceus vegetans of Neumann, with its vegetations or fungosities secreting foetid liquid; as also pemphigus foliaceus, with its evil-smelling sero-pus drying into lamellæ of stinking concretions on an excoriated surface, seem to call, in the absence of the continuous bath, for the prolonged emollient bath containing boric acid.

The following is a history of an interesting



although obscure case of bullous disease cured by the bath.

A child eighteen months old had been affected for five months with a bullous eruption which began on the nucha and gradually became general. It was very itchy, especially at night. The bullæ which have formed during the last fortnight have become pustular, burst and caused an impetiginous excoriation. The primary lesion appears to be grouped erythematous spots, the size of a split pea to a threepenny piece. Some of these fade in the course of two or three days, while others form bullæ. In other places bullæ form on uninflamed bases. The soles and palms present small discrete uninflamed bullæ. The parts now affected are the hands, fore-arms just above wrists, legs, thighs, and abdomen, to level of umbilicus. The mother presents no history of syphilis, nor can cuniculi be discovered on the patient, although carefully looked for, and no other member of the family is affected. Whatever the real nature of this case may have been, it was cured by a six weeks' course of sulphur baths.

In pemphigus pruriginosa, the alkaline bath, followed by calamine lotion or lead lotion, is of advantage.

See also *Pustular Diseases*.

**Pernio.**—Chilblains are viewed by Unna as



angioneuroses, having no relation to frost bite, but depending on a perverse reaction of the vessel tonus to differences of temperature. If this be true, the sedative influence of prolonged general immersion in a warm emollient or alkaline bath should exert a favourable prophylactic influence in this and allied disorders.

**Phagedæna.**—In phagedenic syphilitic ulceration, the continuous bath, either immersion or sitz, is of the utmost value in checking what is now, happily, a rare complication. In the absence of proper apparatus for the continuous bath, immersion, extending over several hours, in a Condy's fluid, boric, or resorcin bath, is suggested as an addition to appropriate treatment. Hospital phagedæna is also treated by the continuous bath with the most excellent results.

**Pigmentations.**—Much may be done by baths in the way of diminishing the residual pigmentations left on the disappearance of various skin eruptions. Syphilitic pigmentations yield to the ordinary soda bath in a very satisfactory way. Not unfrequently the only manifestation of syphilis is the appearance of one or two faint pigmentations, perhaps smaller than a three-penny piece, frequently situated in the deltoid regions. They may be so inconspicuous as to escape the observation of even an attentive observer until pointed out by a still

more interested person, viz., the patient himself. The treatment for this condition is the alkaline bath, or even better, a bath containing bicarbonate of soda, six ounces; and liq. carbonis detergens, one and-a-half ounce.

I much value the carbonate of ammonia bath in the treatment of pigmentations, secondary to various skin diseases, *e.g.*, scabies, phthiriasis, and syphilis. To this may be added tar in increasing quantities.

**Pityriasis Rubra.**—*Vide* Dermatitis exfoliativa.

**Pityriasis Rubra Pilaris.**—Simple or medicated sprays or pulverisations are suggested by Besnier and Doyon for this disease. These authors use the same means in the treatment of diseases of the face, scalp, anal, and vulvar regions. (See also under *Lichen*).

**Pityriasis Versicolor.**—A hot bath and rough scrubbing with soft soap should precede a parasitocidal application, the clothing in the meanwhile being baked. A sulphur vapour bath might appropriately follow; or for this may be substituted the iodine, lysol, or resorcin bath.

**Pompholyx. (Dysidrosis)** — Eruptions affecting the feet are frequently benefited by the boric bath. Bullous diseases limited to the hands and feet may be well treated with this bath, followed by the application of diachylon ointment. Dysidrosis

is apt to occur in very hot weather in persons who are below their usual health and who, partly as a consequence, sweat profusely and visibly about the hands. The boric acid bath used for these persons should be tepid.

**Prurigo and Pruritus.**—As I have previously stated, one of the most marked results of the employment of warm baths is the immediate alleviation of itching. This palliative effect is in itself a desirable advantage, for the process of scratching often aggravates and extends cutaneous diseases either by direct inoculation, or by increasing in an irregular way the hyperæmia of the diseased area.

Brocq recommends as most efficacious the chamomile bath and suggests that the duration should be extended to some hours. For this herbal bath may be substituted a starch bath with a quart of vinegar or a weak sublimate bath.

The ordinary emollient baths are of great service in relieving itching affections.

Alkaline baths, if used in prurigo, should be strong and taken at night, being followed by the application of some bland oil or ointment. For use in the day it is convenient to order calamine lotion as an application.

Baths of tar or sulphur may be used, but should be discontinued if they appear in any way

to intensify the disease. The temperature of the bath I am in the habit of at first ordering in prurigo is from 90° to 92° Fah., which may be increased later on, and this well suits some mild cases. For the tar bath we may substitute a bath of sanitas or creolin or the mixed alkaline and tar. Some cases are well relieved by a bath containing one or two ounces of liquor picis alkalinus.

Kaposi finds sulphur baths extremely useful against prurigo, but he also recommends the sublimate bath (75 to 150 grains); the alum bath; saline baths; and those containing the salts of iodine and bromine.

Barjon believes that baths, particularly those of sulphur, often aggravate these conditions. Warm vapour-baths, or shower-baths, the temperature of the water being slightly moderated, are better. A general starch bath, in which the patient is plunged for fifteen minutes, is sometimes serviceable; a quart of vinegar can be added to this bath.

In prurigo, Crocker suggests that the patient should be thoroughly washed with soap and water, and then well rubbed with Vlemingkx's solution, afterwards taking a warm bath for an hour, followed by the shower-bath.

In intractable cases of this disease the duration of the warm bath may with benefit be extended for several hours; but an attendant should be in the

bath-room. Besnier and Doyon suggest, indeed, the continuous bath prolonged for days, weeks, or months, in cases of obstinate pruritus.

Besnier treats prurigo senilis with (*a*) starch baths, (*b*) every night the skin is bathed with water at 40° C., to every litre of which is added carbolic acid 10 grammes and aromatic vinegar 500 grammes, (*c*) the bathed parts are afterwards powdered with a mixture of starch 90 parts, salicylate of bismuth 20 parts, which with light rubbing adheres to the skin.

**Psoriasis.**—If the psoriasis be inflamed the bath selected must approximate that which would be used for an acute eczema; in fact, as is well known, these inflamed or irritable cases require not only in respect to the bath but also in respect to the local application prescribed a similar treatment to an acute or sub-acute eczema. In the same way that a tar lotion or bath would aggravate an acute eczema, so would it aggravate a psoriasis eczema-teux. The local remedy must be soothing and so must the bath.

If, therefore, the eruption is at all inflamed, irritable, or spreading, a mild alkaline or emollient bath should be selected, and should be followed by an application of oil. It is well to pursue this line of treatment so long as fresh spots of the disease develop. When a more quiescent condition of

the eruption is secured recourse may be had to more stimulating measures, perhaps the best of which is the tar bath of gradually increasing strength. Some obstinate cases of psoriasis are benefited up to a point by ordinary bath treatment, and then become stationary or relapse; these are to be treated by the inunction of a weak mercurial ointment after the bath.

It will be seen from the foregoing that a mild alkaline bath should form the first step in the treatment of a case of acute psoriasis in which are present tendency to actively spread or hyperæmia; this is to be followed after a time by more stimulating applications, but the rule is a good one to withhold stimulating baths like tar when the disease is actively increasing. It may suffice in these cases to order a bath on alternate days or bi-weekly, while in the more commonly met with chronic or quiescent psoriasis greater advantage may be expected from baths prolonged for several hours, and repeated daily after the manner of some thermal establishments. Another point worthy of mention is that the less the hyperæmia present in the individual patches, the stronger (with regard to the quantity of the active medicament ordered) may be the bath. For example, while in some eczemas we should prescribe two ounces of borax to the bath, in an indurated and scaly psoriasis we may with advantage order a pound.



The mixed tar and soda bath is excellent for psoriasis, especially in its later stages, and it has a rapid effect upon the occasional pigmentations of this disease, as indeed upon other pigmentations.

It has been pointed out by Hebra that the obstinacy of this disease receives a tacit acknowledgment by the fact that although sufferers visit the various bathing stations in large numbers, not one of these has gained a marked repute for its remedial power. The baths of Leuk, in Switzerland, perhaps, are the best reputed for psoriasis, and here a use obtains different from ordinary spas, viz., the prescribed duration of the bath is six or eight hours instead of the usual half-hour. It is probable that to this peculiarity is due the beneficial effect rather than to the composition of the waters.

The Vapour Bath is of no more curative value than the ordinary warm bath. In very chronic cases with hardened accumulations of scales, however, the bath efficiently loosens and permits their easy removal. It is claimed that "packing" systematically carried out is more successful in those cases where the disease is extensive. This is a system of treatment, however, which requires the sacrifice of time and convenience, and which does not appear to have commensurate advantages over those methods in more ordinary use, for the process of packing has to be repeated twice a day.

The bath containing four or six ounces of carbonate of ammonia is of great service in psoriasis. It is worthy of note that in this disease, when the lesions are dry and scally, the sulphurated potash bath may occasionally be distinctly harmful, and may result in an increase of the dryness, with perhaps an additional dermatitis, accompanied with and possibly due to cracking of the epidermis.

In this disease the mixed soda and tar bath is most effective (bicarbonate of soda, 6 ounces ; liquor carbonis detergens,  $1\frac{1}{2}$  ounces ; water, 30 gallons). This bath is of much greater value than either the simple alkaline or the simple tar bath, and I have frequently been impressed by the rapid progress cases of psoriasis make when treated with it. This bath or the simple tar bath may be used with advantage conjointly with the thyroid treatment which has been introduced for this disease ; cases treated simultaneously with the bath and thyroid extract have appeared to me to clear more rapidly than others in the same ward treated with the extract alone.

Unna commences the treatment of psoriasis with a bath of four hours' duration, and suggests the sublimate bath (1 in 1,000) ; or ichthyol baths (2 per cent.) as a second cycle in its systematic treatment. Weak sublimate baths are also used by Ehrmann in psoriasis.

**Psorospermiosis Follicularis (Darier's Disease.)**

—In this disorder recourse may rationally be had to medicated baths, of which resorcin, lysol, creolin, or strong sulphur may be selected. The bath should be preceded with rough frictions with soft soap, and should be prolonged in duration, being followed with oil anointing to prevent dermatitis.

**Pustular Diseases.**—There are a very large number of diseases which have primarily or secondarily a pustular elementary lesion. Many of these occur frequently in out-patient practice, and are more or less easily recognised. Among such may be mentioned, pustular eczema as of the genitalia, perineum, gluteal furrow, and genito-crural furrow: impetigo contagiosa, primary or secondary to scabies, vaccination, or varicella: cachectic ecthyma: conglomerative pustulosis of scalp or body due to pediculi: pustular syphilides: furunculi: multiple superficial whitlow-like furuncles of hands: "festers" on slight injury, common in eczema and impetigo: pustulosis in cooks from handling or "drawing" dead animals, game, rabbits, fowls, (post-mortem pustule): bullous diseases which become pustular: bullous or pemphigoid varicella; bullous urticaria: pemphigus: bullous syphilides: carbuncle: ulcers: acne: sycosis: folliculitis: burns, and scalds: impetigo herpetiformis: dermatitis herpetiformis. I enumerate this list in order to

instance the wide service of the boric acid bath. Many of the above receive the greatest benefit from this bath, while, if proper precautions with regard to temperature, etc., are observed, none are injured.

**Scabies.**—The patient soaks for twenty minutes in a sulphurated potash bath at 100° Fah., containing four ounces of the salt. He is then scrubbed with a hard flesh brush, and again soaks for another twenty minutes. The cloths are exposed to a baking at a temperature of at least 220° Fah. before being put on. It is well to give several similar baths on successive days, in order to deal with any acari which may have been produced by the incubation of ova not dealt with by the first bath. The eczematous pruritus which often succeeds scabies is best treated with alkaline or emollient baths and soothing applications. Accompanying impetigo requires a weak mercurial ointment. The sulphur vapour bath is but seldom ordered for scabies, the carefully used bath as above, repeated it may be, forming a reliable curative procedure.

**Scleroderma.**—In generalised scleroderma the hot-air bath may be tried, followed by the application of a bland oil.

**Scrofuloderma.**—The iodine bath has a reputation for scrofulides, which, it is to be feared, rests

rather on a fanciful basis. I prefer the sulphurated potash bath as an addition to treatment by calcium sulphide. Patients seem convinced that the sulphur bath benefits them, and the result of this treatment, steadily persevered in, is certainly as satisfactory as it is often surprising.

**Seborrhœa Corporis.** - Medicated baths are of signal use as accessories to the treatment of the numerous forms of body seborrhœa, and the composition of the bath is indicated by the form of disease presented by the case under observation. The emollient or alkaline bath should be selected for the weeping forms of seborrhœal eczema, while for the drier or more indolent forms the sulphur or resorcin bath may be ordered. Some of those cases approximating psoriasis in type, "seborrhœa psoriasiforme" do well with the mixed alkaline and tar bath. The effect of the medicated bath in curtailing the duration of treatment is well exemplified in those cases of seborrhœa corporis where the lesions are large and the disease extensively distributed. The assistance which an appropriate bath renders to the general treatment is appreciated equally by the patient and the physician.

**Syphilis.**—The once widely held belief that sulphur baths were most beneficial in the treatment of syphilis has to a large extent given place to a more scientific appreciation of the value of the

concomitantly used methods of treatment. It is now believed that plain hot baths used with specific remedies are as effective both in determining the appearance of syphilitic exanthemata and of expediting the disappearance of chronic syphilodermata as are similar baths containing instable compounds of sulphur. This is doubtless quite true with regard to uncomplicated syphilides, but it will not be out of place to here consider the bearing upon this subject of the recent investigations of Unna on the co-existence of seborrhœa or seborrhœal eczema and skin syphilis. This observer has pointed out, and his observations may easily be confirmed in any skin clinique, that the association of the two conditions is not an uncommon one.

The pre-existence of patches, it may be indistinctly marked, of seborrhœa, either of the face, body, or limbs, determines not only the eruption of the syphilide at the same spot, but also its general morphology and intensity. Those parts which are particularly prone to seborrhœal eruptions are shown to be also those where syphilitic exanthems are frequent; and lastly, that the local treatment of the eruption is strikingly more satisfactory if such drugs (like sulphur) as have a specific action on seborrhœa are blended with the specific remedy.

In this regard Unna's utterance rings sharp and clear:—"The mixed infection of syphilis and



seborrhoic eczema often resists the partly constitutional treatment, even inunction, for a strikingly long time, and relapse after transitory improvements in a most unusual manner. But if we commence even without a continuance of the general treatment, to treat the exanthem locally, on dermatological principles, with resorcin, sulphur and like agents, it improves at once without the slightest difficulty."

These cases of mixed syphilis and seborrhœa are by no means rare, and it is not difficult to believe that much of the reputation of sulphur baths in syphilis has originated from the successful treatment of obstinate skin eruptions which are really examples of this mixed infection. The repute gained by success in such cases would doubtless be extended to other syphilitic manifestations, though whether deservedly may well be doubted. The action of sulphur upon many forms of seborrhœa is immediate and marked, and the sulphur bath in such cases is indicated. This class of case is probably overlooked by Oswald Ziemssen, himself a practitioner at a spa, when he says:—"Similar results may be obtained not only at thermal springs, but even without the use of such waters, if the patient takes a bath of water artificially heated up to 102° Fah., or artificial vapour baths. I therefore agree with Professor Pick, of

Prague, when he asks the searching question, 'Are we not justified in maintaining that the same effects were produced under corresponding circumstances when we had simply warm water from Moldavia at our disposal?' The moist heat is the active principle, the efficacy of which is increased by the wrapping in woollen blankets, without which the diaphoretic mostly fails, exactly as the decoctions of herbs do."

In cases of inveterate and relapsing syphilis, I have frequently found the following proceeding to be of very great use, and I strongly commend the method. The patient is well rubbed for five minutes in a warm room, with about two drachms of mercurial ointment. The rubbing should preferably be performed by an attendant and should be applied to all parts of the body, usually covered with clothes, particular attention being directed to the soft skin of the flexor surfaces inside the thighs and axillæ. The patient then enters the steam or hot air vapour bath, and submits to a profuse perspiration for fifteen or twenty minutes. On leaving the bath, he is enveloped in a hot blanket, and when somewhat cooled is, while reclining on a couch, again similarly rubbed with mercurial ointment, separate parts of the body being alternately exposed for this purpose. Much of the ointment applied before the bath, is removed

by the profuse sweating, while that used after the bath is to be allowed to remain on the body until the next vapour bath. The séance is repeated once or twice a week.

Neumann uses the sublimate bath in the treatment of syphilides.

Brine baths are useful to re-establish the strength, and to improve the general condition after prolonged specific treatment. The sublimate bath is recommended for syphilodermata, especially where ulceration is present. The iodine bath has been similarly used.

I have used the sulphur vapour bath at 100° Fah., in a case of mixed syphilis and eczema seborrhœica with large pigmentations affecting the flexures and back, but without perceiving any local improvement from the treatment, although the patient expressed himself, as they nearly all do, better for the baths.

**Aix-la-Chapelle treatment of Syphilis.\***—A brief note will not be out of place here on the method of treatment pursued at Aachen, a method which has procured for that health station a most wide and deserved fame. Shortly, it may be said that the treatment consists of hot baths of the sulphur waters followed immediately, or after an hour's rest,

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\* In these notes I am much indebted to a pamphlet by Dr. James Wilson, of Liverpool, and to my friend Dr. Schuster, of Aix-la-Chapelle.

by mercurial inunctions performed by skilled attendants. There are several subsidiary measures involved, which doubtless materially assist the maintenance of constitutional vigour during the administration of iodide and the inunctions, for both mercury and iodide are used with a very free hand. It is much to be doubted if the special composition of the mineral water has (except in those cases of conjoined syphilis and seborrhœa elsewhere mentioned) more influence than any simple water drunk in similar quantities and any ordinary bath taken at similar temperature; in other words, it is a matter of very grave doubt whether the natural sulphureous water has much, if any, specific influence in the disease under consideration. The experience of the physicians practising at the Spa leads them to hold strongly to the view that a decided beneficial influence is exercised by the waters, but it is difficult, however, to get away from the idea that this suggests what Mr. Hutchinson calls "preconception on the part of the observer." I am constantly noting rebellious cases of syphilis which continue obstinately stationary or relapsing, but which mend directly they are sent to a bracing sea coast station like Llandudno. No sulphur waters are there to be credited with the cure, but if there were, it is probable they would receive no small share of the credit which more properly belongs to the change of environment.

Warm or hot baths of any kind are without doubt valuable in constitutional syphilis, and combined with specific remedies their beneficial influence is plainly marked not only in expediting the resolution of obstinate syphilodermata but also of the more deeply seated lesions of glands, periosteum, etc. Moreover, the hot bath by increasing the vascularity frequently renders latent syphilis manifest by determining the appearance of a syphilitic exanthem, and this makes clear the course to be pursued in treatment. There can be no doubt that the action of hot baths increases the power of the derma to absorb the rubbed in ointment.

Aix-la-Chapelle has in its dry climate and general surroundings a material help to its celebrated treatment. The inunction is conducted by skilled rubbers, after the patient has received a bath of thirty minutes' duration at 95° or 96° Fah. Soap is freely used in the bath, the dose of grey ointment is a drachm, and is rubbed in with the palms of the hands, not by means of pads or gloves. The Aix rubbers first well protect their hands by applying to them soap and in this way escape any untoward effects, although they rub a number of cases daily. The rubbing is effected with considerable pressure and the séance lasts twenty minutes. The great characteristic of the

treatment is the systematic and laborious way in which the details are carried out. "It is of great importance that the rubbing be systematic, the different parts of the body being taken in order. For this purpose it is best to commence with the legs on the first day; on the second, both thighs; on the third, the abdomen and breast; on the fourth, the back; and on the fifth, both arms; reverting again to the legs on the sixth day; after the rubbing, the patient should lie down or rest quietly for, say one hour, after which he may go out and walk if the weather permit, or go about his occupation . . . . The parts anointed on the previous day should be well cleansed before a second rubbing, while it is always advisable to have recourse to a bath daily for the purpose above indicated, as well as to prepare the skin for the subsequent rubbing" (Wilson). The subsidiary elements in the treatment are the maintenance of bodily vigour by a guarded diet, fresh air, exercise, and by adjustment of clothing. All accessible syphilitic manifestations are actively treated by local means. "In Aix the doctors insist upon milk forming a substantial portion of the daily food, and they have been fortunate enough to obtain a milk as nearly identical to human or mother's milk as it seems possible to get, obtained by a dry-feeding process, the



cows never touching green food, but living on a preparation of corn, barley, and wheat meal with bran, to which a little salt is added. With this mixture the cows are fed twice a day, the intervals being filled up by hay, which is placed in their mangers, of the best quality, and always at their use. They are further allowed to drink as much water as they like, the result being that a milk highly nutritious and easy of digestion is obtained, which is, I think, at the present moment, the nearest approach to human milk that has been produced. Patients from all parts of the world come to drink this milk, and all syphilitic patients are directed to drink as much as they possibly can fresh from the cow, three or four glasses being easily consumed at a sitting, and generally in the afternoon." The present use, Dr. Schuster informs me, is to prescribe sterilized milk. The mouth is kept clean and healthy by frequent toilette and use of a wash containing acetate of alumina. The endeavour is to let the treatment be continuous and of sufficient duration. Interruptions, necessitated by stomatitis, diarrhœa, undue dose of the mercury, lack of perseverance, etc., are greatly to be deplored. Good effects soon show themselves after seven or ten rubbings, and in a case of primary syphilis we should aim at fifty rubbings without a break. "Now one of the first

indications we have of the good effect of mercury is an increase in the body weight, which begins to show itself during convalescence and while the syphilitic poison is being eliminated through the various excretory organs of the body. This increase in weight is a point never to be lost sight of during a course of mercurial treatment, because when the normal weight of the body has been reached, or when the weight becomes stationary, there is no good in 'pushing the drug beyond eight or ten further rubbings.' Now at Aix, as a matter of course, the mineral water is prescribed to be drunk. In my practice I substitute for this Ferruginaris water, which is an effervescing, tasteless saline chalybeate water, imported from Niedermendig-on-Rhine, and may be taken with or between meals. I order two pint bottles a day, and I have no doubt whatever, nor have the patients, that the greatest benefit and support is derived from the contained iron and saline contents. O. Ziemssen points out that chloride of sodium possesses, in a marked degree, the property of promoting the absorption and transformation of mercury within the body. Ferruginaris water contains besides its iron, 60 grains of chloride of sodium to a pint.

**Tar Acne.**—Some cases do well with the acid bath.

**Tinea Versicolor.**—*Vide* Pityriasis versicolor.

**Ulcers.**—The continuous bath, when available, will be selected for very rebellious leg ulcers, especially those of large size, occurring in young or middle-aged patients, where the prolonged tendency to form a sloughy surface proves an obstacle to healing. Many indifferent spas are resorted to for the cure of ulcers, and the value of artificial baths should not be overlooked in dealing with some intractable forms of ulceration. Whatever bath be selected, whether it be lysol, tar, boric acid, Condy's fluid, or any other, the immersion should be prolonged and the temperature adapted to the length of the séance. (See also Hebra's Continuous Baths).

I think it is important to bath all cases in which the pus from ulcers appears to set up foci of inflammation and ulceration in the neighbourhood. Such cases are common. The leg is sometimes congested and inflamed, a condition which has been well described as dermatitis hæmostatica, and there is manifest a great tendency to the rapid production of multiple ulcers. They may form in the cutis, leaving the epidermis intact, stretched over the sublying ulcer, and on the removal or rupture of this epidermal covering an ulcer is formed, more or less deep, with sanious fluid or pus covering its surface, and with a disposition to spread both in area and depth. These cases, I consider, should receive

a prolonged boric acid bath daily, the leg being well washed with soap and water before the bath.

There are, however, no cases of ulcer of the leg which are not benefited by a boric bath. The creolin bath is beneficial in most indolent ulcers, and we shall not unfrequently find the stimulating effect of this bath of use in inflamed ulcers, in which the surrounding erythematous area is extensive, cases in which *a priori* we should consider this bath contra-indicated.

**Urticaria.**—Upon the debated subject of baths in nettle-rash, Dr. G. H. Fox speaks plainly and wisely: "As to the employment of baths in acute urticaria, there is a notable disagreement on the part of authoritative writers, some praising them highly, some condemning them severely on account of their alleged tendency to excite the skin. The effect of the bath doubtless differs in different patients, but in the majority of patients the tepid bath containing a quarter or half a pound of carbonate of soda with boiled starch, bran, or oatmeal added, will prove quite soothing to the sufferer. I have repeatedly advised patients with a most intense eruption of acute urticaria to go straight to the nearest Turkish bath, where they have generally found speedy relief. Indeed, the eruption is said to have disappeared immediately after plunging the feet and legs into hot mustard and water."

In rebellious cases, Kaposi uses either the soda, or the alum, or the weak sublimate bath (containing 75 to 150 grains). He thinks tepid temperatures the least efficacious.

Besnier and Doyon point out that many cases of urticaria do not well bear *cold* applications, either lotions or baths, and especially that the application of cold water to palmar and plantar urticarias aggravates the eruption. It is pointed out that these patients should have lotions applied warm, and the tepid vapour bath is suggested. These authors have seldom found the medicated bath useful in this disease; they adopt a bath containing borax, or one or two quarts of vinegar. Another bath which is favoured by these authorities is one containing a quart of vinegar, and from 75 to 150 grains of carbolic acid.

In acute urticaria, Tilbury Fox prescribed an alkaline bath to be taken twice a day, together with suitable lotions, while in chronic cases he used vapour baths freely with the greatest benefit, taking care to apply some soothing application, such as oil or calamine lotion, to the skin, on the patient coming out of the bath, which was ordered to be taken three or four times a week.

Under the heading of Urticaria perstans, Wilson relates the following, presumably rather as a warning of the length to which enthusiasts will carry

their prescription, than as an example to be followed. "He applied for advice to a hospital physician who prescribed warm baths with cold affusion while in the bath, and, subsequently, sweating in a heavy great-coat, followed by a plunge in the river. The first of these recommendations the patient followed to the number of six baths; but the latter, as the season was mid-winter, he made up his mind to decline."

The salt-water bath, which has been much vaunted in urticaria, I have found uniformly disappointing. A weak tar bath is occasionally found valuable in some cases of the chronic form of the disorder. The acid bath is also recommended.

**Urticaria Papulosa (Lichen Urticatus).**—When this disease becomes chronic a sulphurated potash bath is of benefit; one or two ounces of the fused compound to thirty gallons of water being used twice a week. In the interval calamine lotion may be applied, to which is added liquor carbonis detergens if necessary to allay inveterate itching. The tar bath is not unfrequently of marked benefit, as also is the vinegar bath.

**Vaccinal Eruptions.**—The boric bath is of service in skin eruptions sequential to vaccination. Especially is this the case if the rash is pustular *e.g.*, impetigo contagiosa.



**Wounds.**—When granulations are indolent, prolonged indifferent baths, or better, the continuous bath for a few days, will bring about more healthy action. The boric acid bath is also excellent, used for an hour or more daily.

**Xeroderma.**—The vapour bath may be used in xeroderma and ichthyosis, and the benefit may be increased by subsequent friction with warm perfumed lard, oil, or suet; or with an emollient ointment or lotion. The alkaline or emollient baths repeated once a week, associated with the regular use of a glycerine lotion or an emollient ointment, which may contain one or two per cent. of sulphur or resorcin, suffices to keep the skin comfortable in mild cases of xeroderma.



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